

Flight, July 13, 1912.

FLIGHT

First Aero Weekly in the World.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

No. 185. (No. 28, Vol. IV.)

JULY 13, 1912.

[Registered at the G.P.O.
as a Newspaper.]

[Weekly, Price 1d.
Post Free, 1½d.]



THERE FOR 'LADIES' DAY.—A big gathering of motorists at the flying meeting at Hendon last Saturday.

EDITORIAL COMMENT.

The Freedom of the Air.

Since our article of last week, under this heading, was written, judgment has been given in the case of *Mauge versus Farman* which gave rise to the remarks we then penned. In the result the Court awarded damages to one of the plaintiffs to the amount of £20 for injury to growing crops, caused by aeroplanes alighting thereon, but refused the injunction which was asked for, prohibiting aeroplanes from flying above the plaintiffs' land at a less altitude than six hundred feet. The Court gave as its ground for refusing the injunction that there was no law governing aerial navigation, and, in the absence of such a law it could not itself create one.

A further case in point comes to us from Australia, where before the Sydney District Court an aviator was sued by a dairyman for injury to certain cows which were at pasture. It was alleged that the defendant aviator flew over the pasture at a very low altitude, so frightening the animals that they stampeded, two being killed and others injured. Certainly milch cows appear to be cheap in Australia, for the sum claimed only amounted to a mere twenty pounds sterling. In his defence the aviator said that he passed over the cows at an altitude of at least three hundred feet and that his engine made no more noise than that of a motor cycle. However, the Court held him to be in fault and awarded the dairyman the amount claimed. It is a little unfortunate that we have not before us the reasons upon which the Court found for the plaintiff, because the case is a really interesting one and would be well worth discussion if we had all the facts. But the newspaper reports available seem to treat the case as quite a matter of course and do not even comment up on its novelty. This in itself is worth noting, inasmuch as it serves as some slight indication of how really commonplace a thing flying has become, even in the Antipodes, but to return to our muttons.

We are not—and never have been—at all in favour of legislation in haste. We have too many Acts of Parliament in force now which were conceived in panic and hatched in haste, and the tendency of them all is towards the unduly harsh repression of something which soberer thought has shown to be not so terrible as people at first thought. A year or two ago we should have argued—indeed, did argue—most strenuously that the time was not yet when there needed to be any hard and fast code of laws for the proper governance of aerial navigation. People then were inclined to be afraid of the very idea of the aeroplane and, as a matter of concrete fact, we can see the reflex of that in the Aerial Navigation Act of a twelvemonth ago. That was a piece of totally unnecessary and panicky legislation and one we venture to think that would not be introduced by any responsible Minister of the Crown to-day, because, in the meantime, people have come to realise that there is not such danger to be apprehended from the aeroplane and its use as they were first inclined to think. Now, when the community and the legislators have thoroughly assimilated the conditions of something that is new and are able to view it rationally and reasonably, then is the time, supposing legislation to be necessary at all, for them to begin discussing the probable basis of the code to be. And we believe that we are getting toward that stage now. At least we have arrived at the point when *pourparlers* might be resumed between the Governments of the world with a view to getting at

the basis of an understanding with regard to some broadly outlined international law. Naturally, as forms of government differ in various countries, it would be impossible to draw up a universal law to apply to aerial navigation in every civilised State. But allowing for differences in administrative methods, the groundwork would, or could, be precisely similar in all cases. It scarcely needs demonstration that where we are dealing with the possibilities of a science like dynamic flight, with its infinite possibilities of the future, it is more than necessary that, so far as is possible, the law governing the use of the air should be similar in all countries. Briefly, in fact, the user of the air must approximate as closely as possible to that of the high seas. The two, we know, are scarcely comparable, inasmuch as the laws of the ocean need take no account of frontiers while that is likely to be one of the most vexed questions to be settled when the international law of the air comes to be settled.

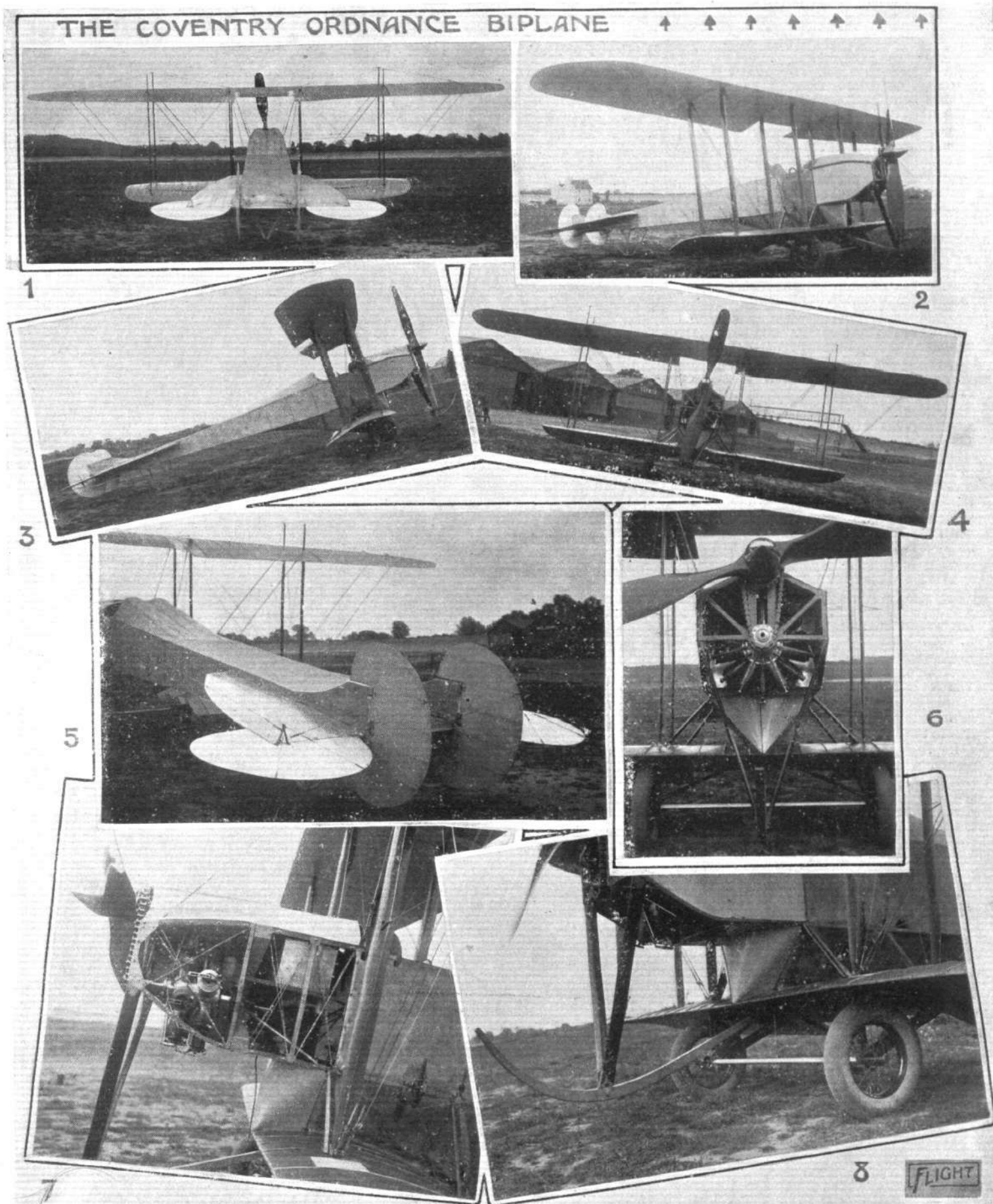
But apart from questions of international interest, there is that of what we take it must be called the common law aspect of the matter, which concerns the individual nation alone. That must receive almost immediate attention, for as things exist we do not know where we are. The French case we have quoted illustrates one point of view. The Court refuses to give damages for harm alleged to have been caused by aeroplanes flying low over another person's property and it takes the eminently sensible view in dealing with the application for an injunction that it is a tribunal for the administering of laws that exist and is not itself a law-making entity. Then we get the Australian case, in which apparently the Court takes an opposite view. It seems to have held that three hundred feet is too low an altitude for an aeroplane passing over a dairyman's pasture, and it would be interesting to know what authority the decision is based upon. Apparently, as chaos exists we can only expect chaotic decisions when aeroplane cases come before the Courts, as they inevitably must do as the movement progresses toward maturity. On every ground, therefore, it is clear that the time has come when both codes, international and insular, must be determined. And, as we indicated last week, it is for the organisations standing for Flight and its Progress to set themselves seriously to work in the preparation of their own ideas of what constitutes proper legislation so that when at last a comprehensive code comes to be included among the laws of the realm, it will be sane, sensible and workable, and not like too many laws drafted by amateur legislators, elastic where it should be ironbound and harsh and repressive where it might, with advantage, allow a great deal of latitude.

In this connection, however, valuable progress has been made, and in the official recommendations of the F.A.I. published in another column, we have at least a basis—and a very excellent basis—for discussion.

The ground covered by the F.A.I. labours is sufficiently wide, the matters discussed being divided into four sections:—

1. Regulations dealing with the right to circulate above the territory of the countries forming part of the Federation Aeronautique Internationale.
2. Measures to be taken *re* national defence.
3. Customs regulations.
4. Regulations controlling aerial circulation.

THE COVENTRY ORDNANCE BIPLANE



THE MILITARY COMPETITION MACHINES.

"Flight" Copyright.

1, 2, 3, and 4. Views of the Coventry Ordnance biplane taken from different points round the machine. 5. The arrangement of the tail. 6. The front of the body, showing the motor, propeller, and chain transmission. 7. The body with side casing removed, showing the 100-h.p. Gnome motor. 8. The landing gear, unsprung except for the resiliency of the large diameter tyres.

THE MILITARY COMPETITION— THE MACHINES.

THE COVENTRY ORDNANCE BIPLANE.

As mentioned in our issue of last week, the Coventry Ordnance Works, Ltd., are entering a pair of machines for the War Office aeroplane competition. One of these has already been described in FLIGHT; the other is of the same type, but is fitted with a 110-h.p. Gnome motor in place of the 100-h.p. Gnome; it has 5 ft. less of wing span, and it is some 2 ft. shorter in overall length. Details and photographs of this latter machine we are not yet able to publish. In the meantime, however, let us briefly recapitulate the main characteristics of the 100-h.p. Gnome-engined machine that has been flying at Brooklands for some two months past. We print in this issue a series of photographs illustrating this highly interesting and original biplane. Its design is jointly due to Mr. Howard Wright and Mr. W. O. Manning, A.F.Ae.S. For its construction, most of the building was carried out at Mr. Howard Wright's works at Battersea, the metal work being done at the Coventry works.

Incorporating the *fuselage* as a feature of construction, it is a biplane of the tractor type. The body, of lattice-girder construction, flattening toward the rear, is sufficiently wide to seat pilot and passenger side by side. Its sides are parallel. In front, the four *longerons* are assembled into a specially designed pressed-steel housing, in which both the motor and the propeller-shaft are mounted. The drive to the propeller-shaft is by a Hans Renold chain, it being so arranged that the speed of rotation of the propeller is half that of the engine. The propeller itself is strikingly large, for it measures 11 ft. 6 in. from tip to tip, while in its construction nine laminations of teak are employed. It has the peculiarity that, from the boss to a point some 18 ins. down the blade, it is designed to give no forward thrust, but merely to revolve in air, causing as little resistance and absorbing as little power as possible. For this and other reasons, when the machine is flying, those in the cockpit notice comparatively little rush of air. As an advance on accepted practice, particularly relating to Gnome engines, the motor on this machine has been

equipped with Bosch dual ignition in order that it may, when necessary, be started from the pilot's seat.

The main supporting surfaces are double surface, are unequal in span and are separated by a gap of 8 ft. The upper plane spans 40 feet, the lower 24 ft. 8 in. The chord in measurement diminishes from 6 ft. at the centre of the wings to 5 ft. near the tip. Both end sections of the top plane, each 10 ft. in length, are constructed so that they may be warped for the correction of lateral balance. As for the cross sections of the plane, the designers have made use of one that has been experimented with by M. Eiffel, for, data relating to its behaviour being available, it has been thought more advantageous to have something definite to work upon than to employ a section the virtues of which might be problematical. The landing gear is about as simple a conception as one could possibly cite. No shock absorbers have been introduced, all the shock absorbing necessary being done by large diameter 6 in. tyres. Protection is afforded against damage to the propeller by a turned up hickory skid, which proceeds forward and which is connected to the nose of the machine by a pair of struts of Honduras mahogany arranged V fashion.

A good idea of the tail is conveyed by one of our photographs. Tanks for the storage of fuel and oil are located under the bonnet. Here there is a tank for oil holding 32 gallons and one for petrol holding 10; the main bulk of the petrol, however, is carried in a large tank arranged in the streamline well below the *fuselage*. From there to the auxiliary tank under the bonnet it is fed by pressure.

Main characteristics:—

Motor...	14-cyl. Gnome, 100-h.p. rotary	Area ...	...	...	350 sq. ft.
Overall length	...	Average chord	...	...	5 ft. 6 in.
Span	...	Weight, all on	...	...	2,000 lbs.
	40 ft., 24 ft. 8 in.	Speed ...	...	...	60 m.p.h.

THE BLÉRIOTS.

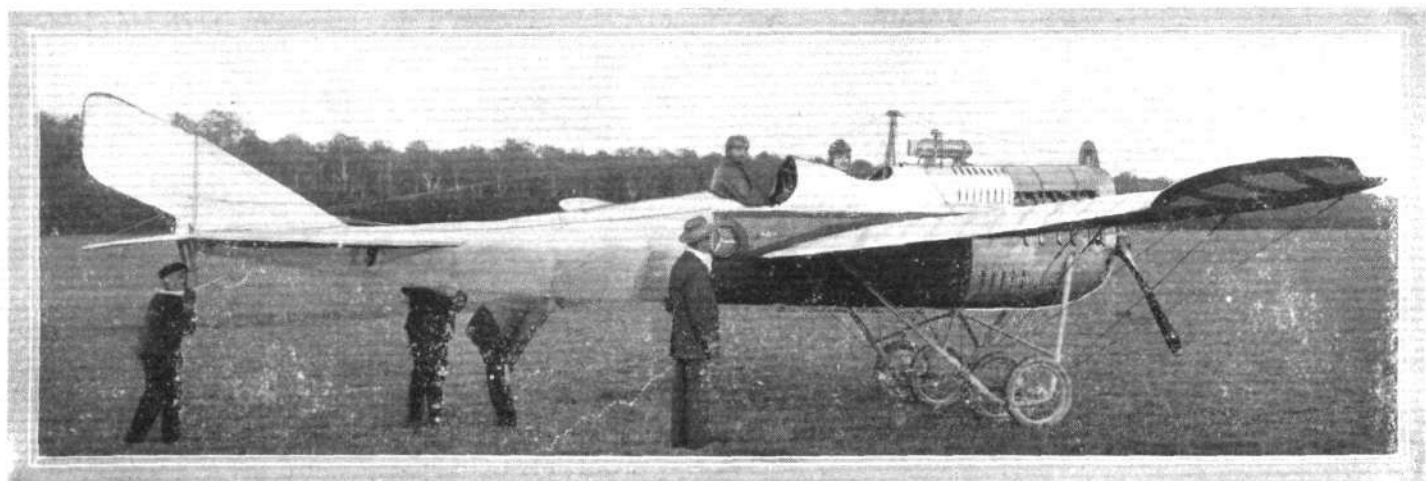
OF the two monoplanes for the War Office competitions entered by L. Blériot one is of the same type as that which first appeared in England at the time of the last Aero Exhibition at Olympia, in March, 1911. In this machine pilot and passenger sat side by side. The other machine is a replica of that with which both Hucks and Hamel have done much flying of late in England. Accommodation in this latter machine is provided tandem fashion. For the present it is to the former machine that we propose to devote a few lines.

Its *fuselage* serves a double purpose; not only, as in other monoplanes, is it used as the backbone of the machine, but its after portion is splayed out horizontally, and covered with fabric forming a fan-shaped tail. To the rear is hinged a semi-elliptic flap, which governs the machine for ascent and descent. The *fuselage* itself is of the customary box-girder type, cross-braced in conventional Blériot fashion. It is covered in with fabric throughout its whole length, to improve its ability to penetrate the air with little disturbance.

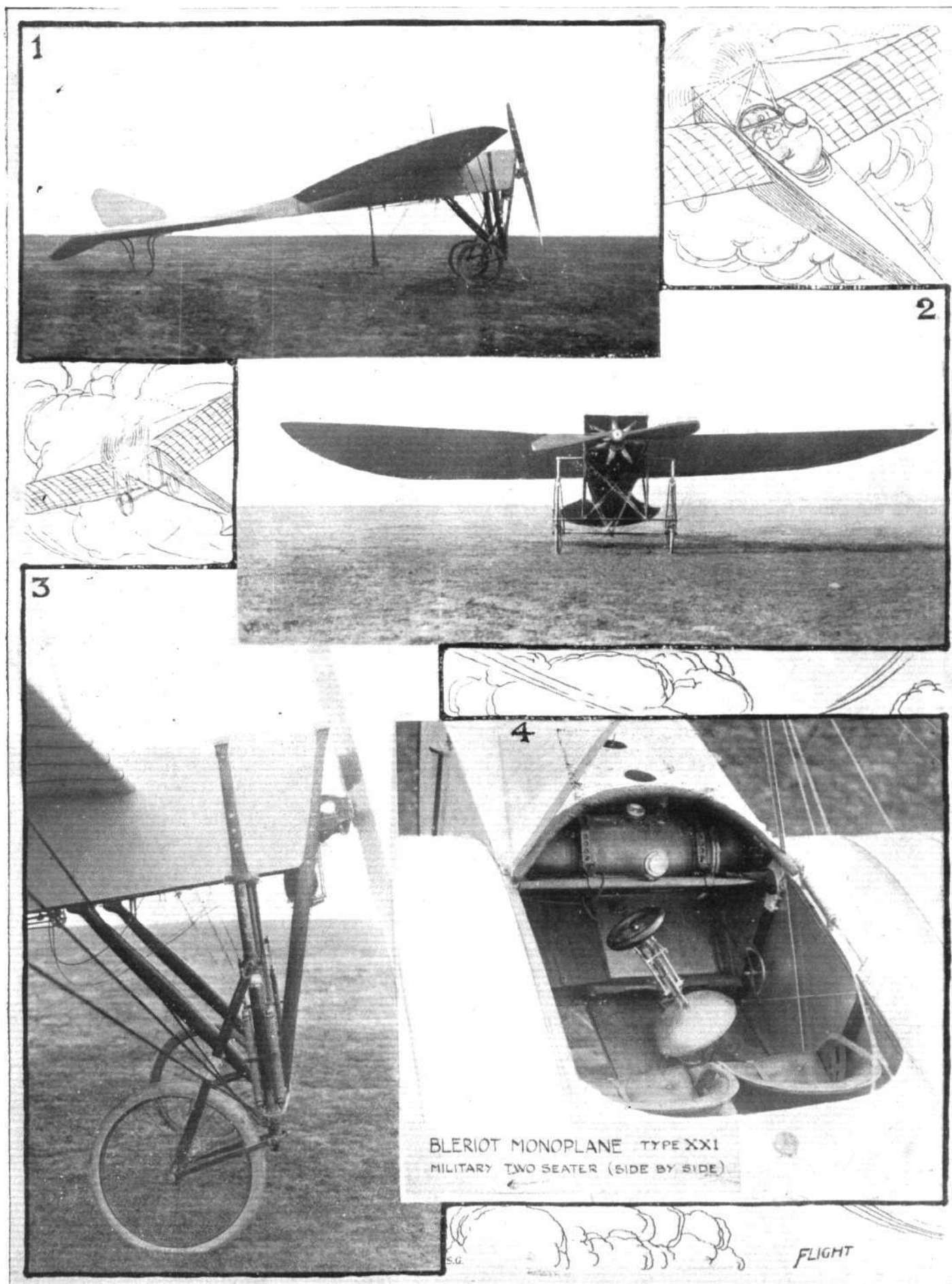
In front, under a cowl specially designed to protect the pilot from oil, is the motor, a 70-h.p. Gnome, slung on both sides of the crank-case.

The landing gear is essentially the same as that which was fitted to the first Blériot monoplane that startled the world by its flight across the English Channel. One slight peculiarity it has, however, that the top horizontal wooden member of the chassis-frame is, in the machine under review, applied to the base of the *fuselage* instead of to the top, as in previous machines. By this means the overall height of the chassis is considerably lowered, and this contributes to give it increased robustness. Although the chassis is considerably reduced in height, yet this method of applying it to the *fuselage* allows the front section of the machine to be lifted well above the ground, thus providing clearance for a propeller of ample dimensions and giving the wings, when at rest, a large angle of incidence, a feature which materially helps the machine in stopping within a reasonable distance after landing. The tail is supported by a double bent skid of rattan cane.

Well forward in the body, so near to the leading edge of the wings that they may obtain a clear view of the ground below and in front of them, are the seats for pilot and passenger arranged side by side. The pilot sits on the right-hand side, and it is in front of him that



THE MILITARY COMPETITIONS.—The Mars monoplane, entered by Mr. C. E. Kny and constructed by the Deutsche Flugzeug Werke at Leipzig. It will carry the No. 23 in the Military Trials.



THE MILITARY COMPETITION MACHINES.

1 and 2. How the military Blériot two-seater monoplane (Type XXI) appears from the side and from the front. 3. Details of the landing gear. 4. The interior of the cockpit showing the typical *cloche* which is used for controlling.

the controls are arranged. The passenger, too, may take control of the machine, for at his feet he has a foot-bar working in duplicate with that of the pilot by which he can operate the rudder. He has merely to lean to his right and to grip the *cloche* to obtain control of the whole machine. Below the aluminium scuttle-dash in front of them are arranged two fuel-tanks which feed down to the engine by gravity. A third tank, of much greater capacity, is stored away below the seats, from which position it is fed under pressure to the other tanks. The wings are of customary Blériot shape and construction, and span 36 ft. 4 ins. Each wing does its share of supporting the fuselage through three stranded steel cables running from

the front spar to the base of the chassis, and by three further cables, which also actuate the wing warping, running from the rear spar to the lower *pylone*. Steering is effected by a balanced fin-shaped rudder mounted above the tail.

Chief characteristics:—

Motor ...	7-cyl. Gnome, 70-h.p. rotary	Net weight ...	770 lbs.
		Useful load ...	550 lbs.
Overall length ...	27 ft. 3 in.	Capacity of petrol tank ...	24½ galls.
Span ...	36 ft. 4 in.	Capacity of oil tank ...	7½ galls.
Area ...	Approx. 275 sq. ft.	Speed ...	60 m.p.h.

THE MARS MONOPLANE.

FLYING under the official number 23 in the Military Aeroplane Trials will be a machine called the Mars, entered by Mr. C. E. Kny, and constructed in the Deutsche Flugzeug Werke at Leipzig.

As the photograph shows, this monoplane is of interesting and original design. It has a completely covered body, in which two cockpits are provided for the pilot and passenger; the latter, who in a military aeroplane would be the observer, has a position in front of the pilot, and a clear outlook over the wings. Both pilot and passenger have the appearance of being seated very high in the machine, and, similarly, the wings seem to be low-pitched; but in reality this is mainly due to the protective covering that arches over the top of the boat-shaped body.

The engine, a 100-h.p. Mercedes, is situated in the extreme front,

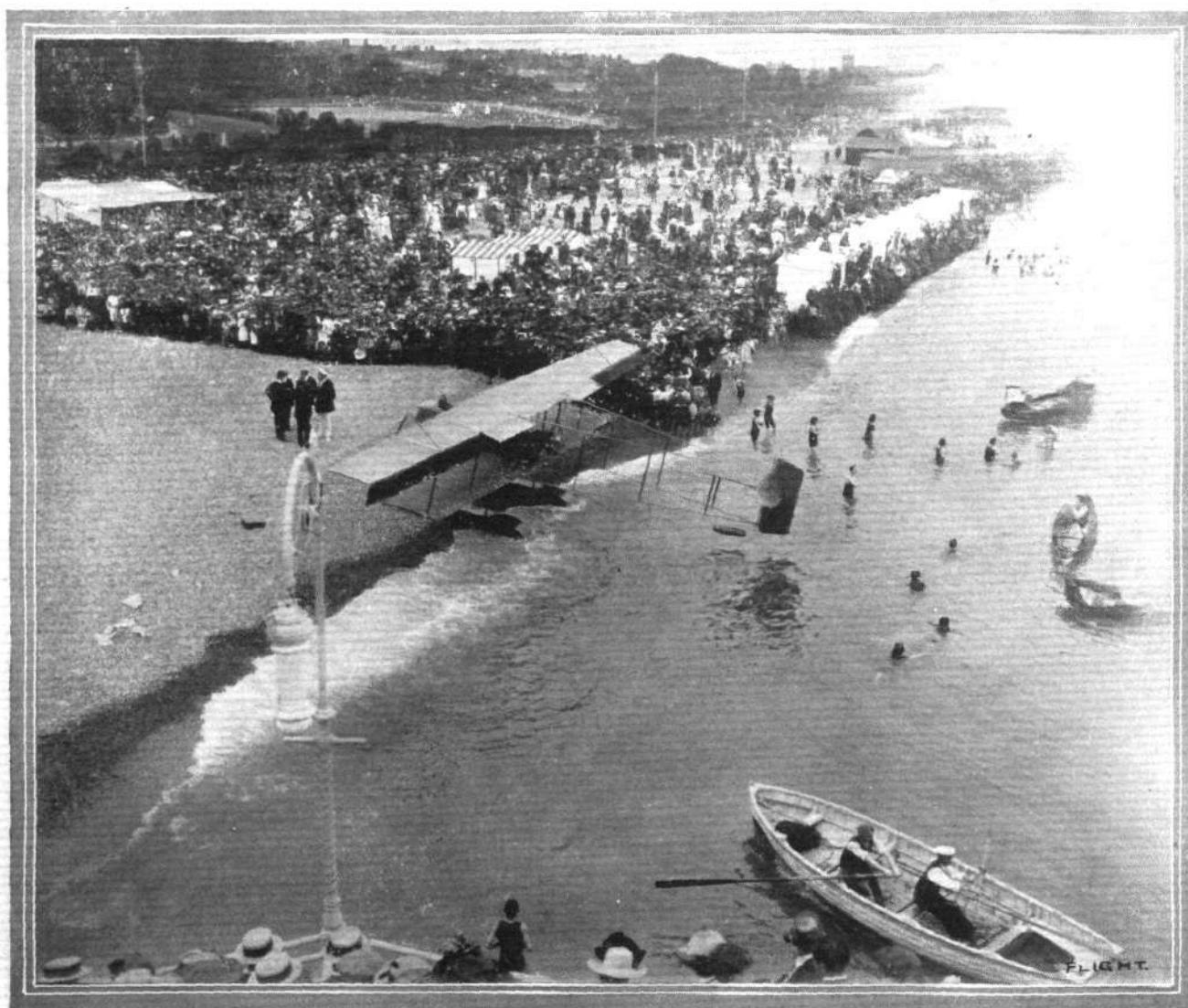
and short exhaust pipes discharge the gases below the level of the wings. The wings themselves are built somewhat on the lines of the Etrich, at least, they have the characteristic Etrich upturned tips. The elevator and rudder are situated in the tail, which, by the way, is braced by long diagonal wires to the triangular mast above the cockpit. Corresponding wires pass downwards beneath the body to the main struts of the undercarriage, which is especially worthy of close examination as an interesting feature of construction. In all probability, Lieut. Bier, who is at the wheel in our photograph, will fly this machine; it has already attained a speed of 80 m.p.h. when fully loaded with passenger and fuel for four hours. The weight of the machine is about 1,170 lbs. The span is 53 ft. and overall length just under 45 ft.; the supporting surface is 350 sq. ft.

New World's Records.

ON the 5th inst. at Compiègne, Legagneux beat the world's passenger speed records from 10 to 150 kiloms. He used a Zens monoplane with an 80-h.p. Gnome motor. The new records are:—
 10 kiloms. 4 m. 45½ s. 40 kiloms. 19 m. 9 s. 100 kiloms. 48 m. 3½ s.
 20 9 m. 32 s. 50 23 m. 59 s. 150 1 h. 13 m. 4 s.
 30 14 m. 21½ s.

In one hour 124·385 kiloms. were covered, the old record being 101·25 kiloms.

On the same day at the Leipzig meeting, Schirmeester on a biplane carried four passengers for 33 mins. 52 secs., and Oelrich took two for 2 hrs. 41 mins., both these figures being new records. The following day at Leipzig Hirth put up a new height record, going up to 4,100 metres.



NAVAL REVIEW AT SPITHEAD.—One of the Farman hydro-aeroplanes after its arrival on the beach at East Southsea.

LADIES' DAY, HENDON.

"HENDON" weather was again responsible for some alteration in the arrangements for last Saturday's programme at the London Aerodrome. It was to have been a red-letter day for British



"Flight" Copyright.

Mrs. de Beauvoir Stocks, the only lady pilot to fly at Hendon on Ladies' Day last Saturday.

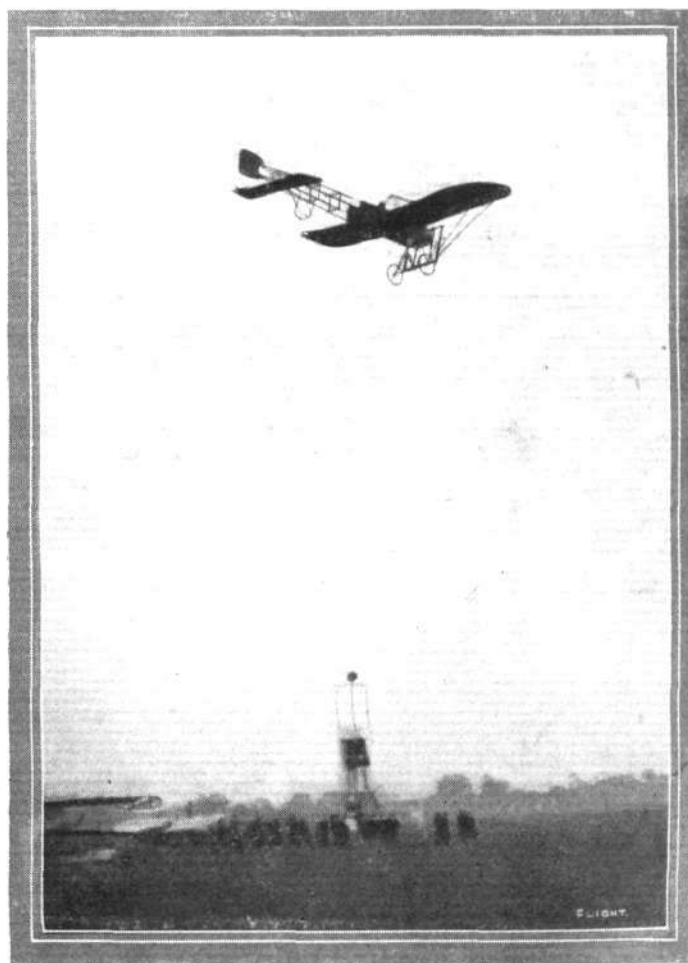
aviation, for special competitions had been arranged for lady pilots, the first ever held. These competitions, however, had to be cancelled, owing to the risky nature of the wind, especially for lady pilots. It was a pity, for there was a very good attendance, in spite of the great counter-attraction of Royal Henley. It is to be hoped, however, that the Women's Aerial League, under whose auspices the meeting was held, will be able to arrange another ladies' day for some future date.

The principal part of the programme being declared off, however, did not prevent some very fine races from taking place by the men pilots. After a few trial flights by some of the pilots, including Hamel, who cut things rather fine in the banking line, a cross-country event was started. The course was a double journey to Elstree and back, there being four starters:—Hamel, 50-h.p. Blériot (scratch), Verrier, Maurice Farman biplane (1 min. 33 secs. start), J. L. Travers, Grahame-White-Farman biplane (10 min. 50 secs.) and Turner, Howard Wright biplane (12 min. 14 secs.). This race proved to be another disappointment, for Hamel and Turner were the only ones to finish the complete course, although the former did not cross the finishing line properly and the latter fouled one of the pylons at the start. Verrier, for some reason or the other, was waved down as soon as he started, and Travers also came down after completing one circuit. In view of the above happenings, therefore, the race was necessarily declared void.

The next event was a speed handicap in two heats of four laps each and a final of six laps. Three started in the first heat, viz., Hamel, Blériot (scratch); Sabelli, Deperdussin (1 min. 36 secs. start); and Travers, Grahame-White-Farman (2 mins. 6 secs.). Hamel did not start until Travers and Sabelli were finishing their first lap. The finish of this heat was very close, Hamel passing Sabelli at pylon No. 3 and Travers at pylon No. 6 in the last lap, finishing 9 seconds ahead of Sabelli, who was second, having passed Travers just before the line—one second ahead. Turner on the Howard Wright, with 2 mins. 32 secs. start, and Verrier

at scratch, flew in the second heat, which was won by the former by 33 seconds. The final of six laps proved to be one of the most exciting yet seen at Hendon. Hamel was scratch, Sabelli had 2 mins. 24 secs. start, and Turner 3 mins. 54 secs. Turner had covered two circuits before Hamel started, but the latter gained on his rivals very rapidly, and at the finish all three machines came down the straight together; Turner first, Sabelli second, 1½ seconds behind, and Hamel third, 3 seconds behind Sabelli. Just before the final Verrier took up a passenger on the Maurice Farman biplane, and was up again after the speed contest had finished. Hamel also gave an exhibition flight. Then Mrs. Stocks made three circuits of the aerodrome on the Anzani-Blériot. She flew exceedingly well, the monoplane being very steady indeed; she made a good landing, too, though just a trifle "bouncy." This flight certainly deserved the round of applause accorded it at the finish.

Another speed contest was then arranged, to take the place of the cross-country race, this time lady passengers being carried. There were two heats and a final of four laps each, the starters being Hamel (Blériot), Desoutter (Blériot), Sabelli (Deperdussin), Verrier, with Mrs. Stocks (Maurice Farman), Turner, with Mrs. Gates (Howard Wright), and Travers (Grahame-White-Farman). The first heat was flown by Verrier and Mrs. Stocks (scratch), Sabelli, on the 35-h.p. Anzani-Deperdussin (40 secs. start), and Travers (1 min. 20 secs.). Verrier came in first in fine style, about 3 secs. in front of Travers. In the second heat, Turner, with Mrs. Gates, had 3 mins. 4 secs. start, and Desoutter, who was flying the Anzani-Blériot, got 1 min. 56 secs., while Hamel was scratch. This heat went to Turner, Hamel losing by 21 secs., but getting a place in the final. Some amusement was then caused by Hamel, who instead of descending and lining up for the final, indulged in a little trick flying, while everyone who could get hold of a flag attempted to wave him down. When at last he did come down, and the final was about to start, out came Mr. Barber on the Valkyrie monoplane, and gave one of his old exhibitions of "hands off" flying—to the accompaniment of more flag wagging. At last a start was made for the final heat, which ended in a very close finish



"Flight" Copyright.

Mrs. Stocks flying on the Blériot monoplane at Hendon on Ladies' Day, and winning the *Daily Mirror* prize.

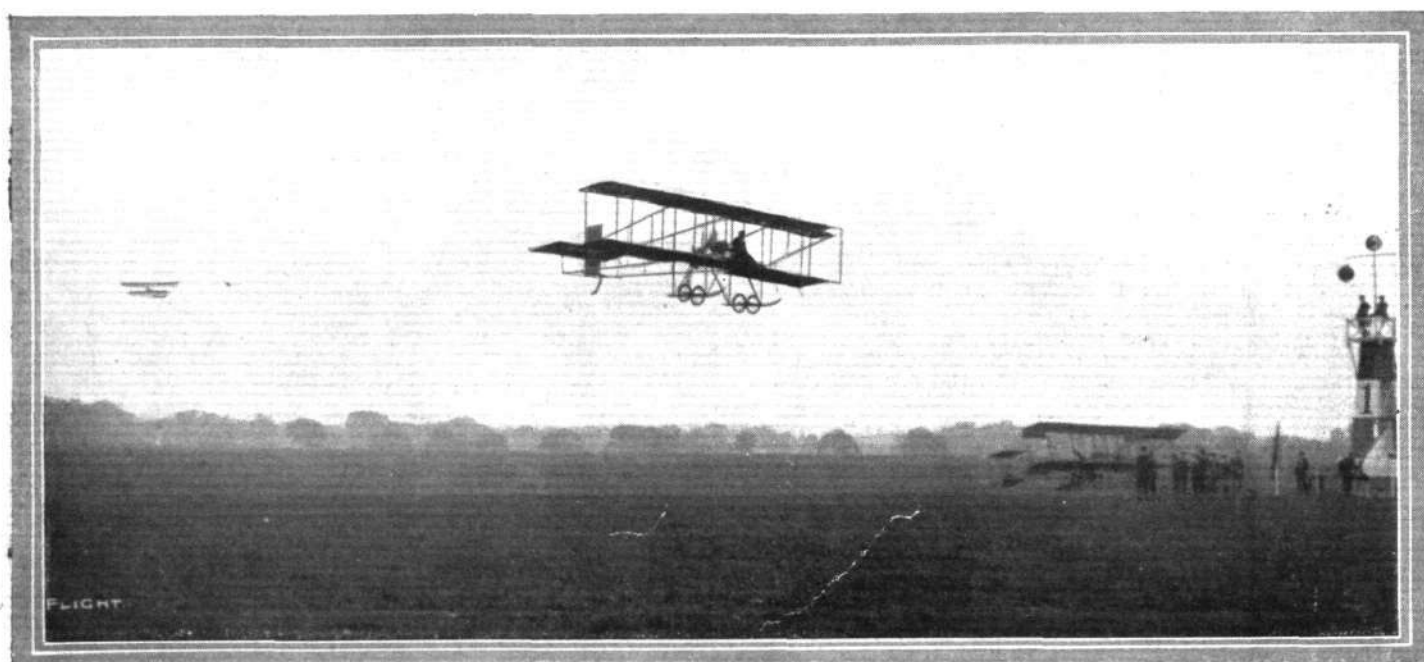


"Flight" Copyright.

A TRIO.—Finish of first heat of the Speed Handicap at Hendon, Saturday, the competitors being Mr. Gustav Hamel, Mr. J. L. Travers, and Mr. Sabelli in the order named.



Mr. B. C. Hucks and Mrs. Craig off for a flight at Hendon on the former's fast Blériot.



"Flight" Copyright.

Mr. Lewis Turner finishing first and Mons. Verrier second in the second heat of the Speed Handicap at Hendon on Saturday last.

between Verrier (with Mrs. Stocks), Turner (with Mrs. Gates), and Travers. Verrier was first by 4 secs., the others following in quick succession in the above order, Hamel being last, but not so very far behind. This brought the meeting to a close, and the rest of the evening was devoted to passenger flights.

During the evening a new machine came out for an airing; this was a biplane built by Messrs. Handley Page, for Mr. T. Sonoda, of Japan.

Sunday afternoon and evening saw numerous exhibition and passenger flights by Messrs. Verrier, Sabelli, Turner, Travers, Hamel and Gates. At 4.15 Verrier left for Brighton, on the Maurice Farman, accompanied by his mechanic (or as the megaphone man

had it "a lady passenger"). A little excitement was caused when Mr. Lindsay Campbell was about to make a flight on the Howard Wright. The biplane was standing between the two enclosures facing the sheds, and after the engine had been started Mr. Campbell swung the machine round, and the tip of the lower right-hand plane struck a photographer in the back of the neck and bowled him over. He was not much hurt, however, and was soon put right. It was then announced that Mr. Grahame-White had left Folkestone at 4.15 p.m., but as events turned out, he did not complete his journey that evening, owing to engine troubles, and his expectant friends had perforce to postpone their greeting which they had ready to accord him.

THE SWEEP FACTOR OF A CAMBERED PLANE.

By F. HANDLEY PAGE.

A CORRESPONDENT has raised the question in your paper as to the way in which the "sweep factors" of a plane were calculated by a method I recently outlined at a meeting of the Aeronautical Society.

As on that occasion I gave but the briefest outline, a more detailed description may, perhaps, be of interest.

In general, in dealing with the pressure produced on a plane by the air impinging against it, and thus having communicated to it a change of momentum, there are two factors to be considered:—

- (1) The mass of air dealt with;
- (2) The rate of angular deflection of the air path.

From these two the change in momentum of the air stream can be calculated.

The weight of the air affected per second by the plane will be per cm. of span.

$s \times w \times c \times V$ grammes. If s = sweep factor.

w = weight in grammes of i.c.c. of air.

c = chord in cms.

V = velocity in cm/sec.

or $W = S \times w \times c \times V$ grams.

If $\frac{d\theta}{ds}$ be the rate of change of curvature of the air-stream path,

then the rate of change of the air-stream velocity is $\frac{V d\theta}{ds}$ or $\frac{V}{r}$, where r is the radius of curvature.

The change in momentum of the air stream is $\frac{S \times w \times c \times V}{g} \times \frac{V}{r}$

$= S \frac{w}{g} \cdot c \cdot \frac{V^2}{r}$, and the pressure per unit surface of the plane

is $S \frac{w}{g} \cdot c \cdot \frac{V^2}{r}$, or $\frac{P}{A} = S \frac{w}{g} \cdot c \cdot \frac{V^2}{r}$.

In Eiffel's results, the pressures are all given in mm. height of the pressure-gauge with a wind velocity of 10 metres per sec. The

length of the chord of the tested planes was known, so that the sweep factor and the radius of curvature of the air-path at any particular point are the only two unknowns. To separate these two factors, one must carefully examine the pressure-distribution curves for each plane. They have generally the following leading characteristic: An initial rush of air over the dipping front edge, causing an upward pressure of more or less great magnitude, followed by a subsiding of the turbulence in the more central part of the plane section, and lastly a final eddy at the rear edge.

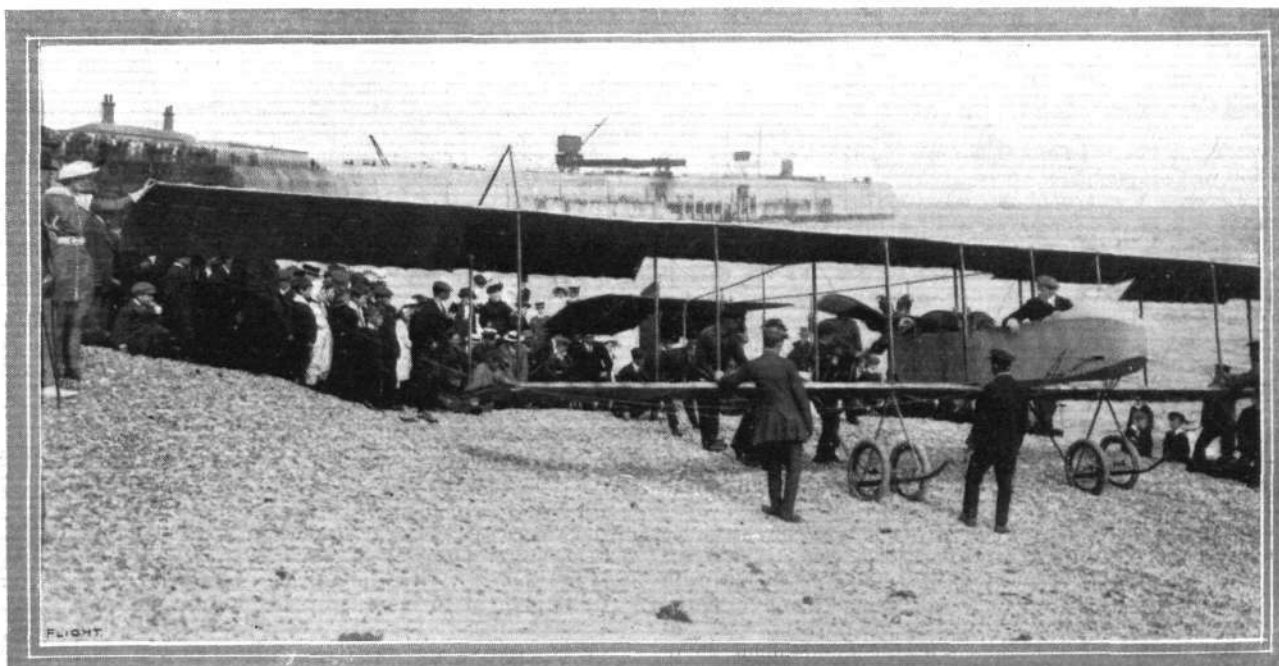
In the central path, where the initial and final eddies have but little influence on the air, we may assume that the air will for a short while follow the plane section. Here, then, the radius of curvature of the air stream will be equal to that of the plane section.

Values of the radius of curvature were carefully determined for each plane tested by Eiffel, and from the pressure value at the part chosen, the sweep factor was calculated with the aid of the formula given above.

These values were about .7 to .8 for nearly all the types of planes. How closely the method is true can be judged from the pressure distribution curve of the plane, with curvature $\frac{1}{r}$ where the pressure over a large portion is practically constant over a large portion of the section.

The German Military Competition.

BRIEFLY the conditions for the German War Office Trials for military aeroplanes are, that both aeroplane and motor must be built in Germany; that each machine must carry a passenger and a load of 200 kilogs. as well; that it must be capable of being started by those on board without outside assistance and that the minimum speed against a wind blowing 10 metres a second must be 70 k.p.h. The machine must also be capable of landing on and rising from ploughed land.



Mr. Grahame-White, on his new Henry Farman biplane, about to start from the beach at Folkestone for his flight to Hendon. Mrs. Grahame-White is standing on the extreme left of the picture. Note the shingly beach for getting off from.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Fédération Aéronautique Internationale.

THE committee at its meeting on the 2nd inst., received the report of the Conference of the Fédération Aéronautique Internationale, held in Vienna on the 20th and 21st June, 1912. A unanimous vote of thanks was passed to Mr. R. W. Wallace, K.C., Mr. Griffith Brewer, Mr. M. O'Gorman, and Capt. Murray Sueter, R.N., who attended the Conference on behalf of the Royal Aero Club. A vote of thanks was also passed to the Austrian Aero Club for its excellent arrangements for the Conference and its kind hospitality to the delegates.

Below is a brief report of the proceedings of the Conference.

Balloon Contest at Hurlingham.

The Long-Distance Balloon Contest for the cup presented by Mr. A. Mortimer Singer will take place at Hurlingham, on Saturday, the 13th inst., at 3.30 p.m.

The following are the entries in the order of start:—

Competitor.	Balloon.	Pilot.
1. Capt. E. M. Maitland	Pompador, 50,000 c.f.	Capt. E. M. Maitland
2. Hon. Mrs. Assheton		
Harbord ...	North Star, 80,000 c.f.	Griffith Brewer
3. A. Mortimer Singer	Planet, 80,000 c.f.	A. Mortimer Singer
4. Mrs. John Dunville	Banshee II, 80,000 c.f.	C. F. Pollock
5. A. P. Hohler	Esperance, 50,000 c.f.	A. P. Hohler
6. W. F. Clouth	Clouth IV, 77,000 c.f.	W. F. Clouth
7. John Dunville	Dunlop, 50,000 c.f.	John Dunville

Members of the Royal Aero Club will be admitted to the Hurlingham Club free, on presentation of their Royal Aero Club membership cards.

Members of the Royal Aero Club can obtain special vouchers for the admission of their friends, who are not members of the Royal Aero Club, to Hurlingham, from the secretary of the Royal Aero Club. These vouchers will admit on payment at the entrance gates.

Late Hon. C. S. Rolls and Mr. Cecil S. Grace. Memorial at Eastchurch.

The Archbishop of Canterbury has kindly consented to unveil the stained-glass window erected in the church at Eastchurch in memory of the late Hon. C. S. Rolls and Mr. Cecil S. Grace. The ceremony will take place on Friday, July 26th, 1912, at 12 noon.

Arrangements will be made for a saloon to be attached to the boat train leaving Victoria at 10 a.m., and members desirous of being present are requested to send in their names to the secretary, so as to facilitate any arrangements which have to be made. A luncheon will be provided at the club flying grounds after the ceremony.

The Late Capt. E. B. Loraine and Staff-Serjeant Wilson.

The news of the sad accident on Salisbury Plain on Friday, the 5th inst., was received at the Club with great sorrow, and the chairman immediately forwarded messages of sympathy to the relatives of Capt. E. B. Loraine and Staff-Serjeant Wilson. Further messages were also sent to the War Minister and the Commandant of the Royal Flying Corps.

The funeral of the late Capt. E. B. Loraine took place at Bramford, near Ipswich, on Wednesday last. Among the many floral tributes was a wreath expressing the deep regret and sympathy of the members and committee of the Royal Aero Club. A memorial service was held on the same day at the Guard's Chapel, Wellington Barracks, at which the Royal Aero Club was represented by its Chairman, Sir Charles D. Rose, Bart., M.P.

Donation to the Club.

Mr. Hugh Spottiswoode, of the *Sphere* and *Tatler*, has presented the Club with a donation of £50 in acknowledgment of the assistance rendered by the Club, through Mr. Frank K. McClean, in the recent photographic experiments carried out from an aeroplane over the wreck of the P. and O. Steamer "Oceana," at Eastbourne.

Presentation to Library.

Mr. Hatton Turnor has very kindly presented to the Club a handsomely bound copy of "Astra Castra."

French Hydro-Aeroplane Meeting.

A Hydro-Aeroplane Meeting will take place on August 26th, 27th, and 28th, 1912, in the Bay of St. Malo. 38,000 francs are offered in prizes, and, among other events, there will be a Hydro-Aeroplane race, on August 28th, from the Bay of St. Malo to the Isle of Jersey and back. Particulars can be obtained from the Royal Aero Club.

166, Piccadilly.

HAROLD E. PERRIN, Secretary.

F.A.I. CONFERENCE AT VIENNA, JUNE 20TH AND 21ST, 1912.

LAWS OF THE AIR AND CARTOGRAPHY.

THE meeting of the F.A.I. Conference at Vienna, presided over by Prince Roland Bonaparte, was held on June 20th and 21st, 1912, Mr. Roger Wallace, K.C., Mr. Mervyn O'Gorman, Mr. Griffith Brewer, and Capt. Sueter, R.N., being present on behalf of the Royal Aero Club.

Cartographique Commission.—The report of the Cartographique Commission was adopted (see Appendix A).

Voting Power.—A sub-committee was appointed to consider and report on the system of allocating votes for the various countries. This sub-committee decided to re-arrange the voting so that the maximum number of votes should be 12 for gas, 12 for cubical contents of aerostats, and 12 for the number of aviators, thus making a maximum of 36. Under this rule, Germany gets 36 votes instead of 28, France gets 36 votes instead of 32, and Great Britain gets 22 votes instead of 13. It will therefore be seen that the proportional representation of Great Britain has considerably increased by this re-arrangement of voting.

Gordon-Bennett Aviation Race, 1913.—The conditions of the Gordon-Bennett Aviation Cup, 1913, were discussed, and a sub-committee was appointed to consider and report to the meeting. When this report was delivered, it advised the race for 1913 being within an enclosure of 5 kilometres circuit, in spite of the fact that America and Great Britain were in favour of a cross-country race with certain safeguards. The matter was re-opened in the main conference, when Mr. Mervyn O'Gorman (Great Britain) suggested that in order to make cross-country flights safe, machines participating in the race should first fly at a maximum-minimum rate of say 80 kilometres per hour, the argument being that a machine that could fly slowly could land safely in open country. The cross-country race with safeguards on this principle was adopted, and the details of the race were left to a later meeting, after this year's Gordon-Bennett race has taken place.

Next Conference.—It was decided that the next meeting of the F.A.I. should be held at the Hague, Holland, some time in September of next year.

Aeronauts' Certificates.—At the end of the conference the British delegates were successful in getting a modification inserted in the rules relating to aeronauts' certificates and airship pilots' certificates, the alteration being that a night ascent is defined as being of a minimum time of two hours, between sunset and sunrise, thus making night ascents possible in England.

Laws of the Air.—The report of the work of the Commission on the laws of the air, held in Brussels in May last, was adopted (see Appendix B).

Aviation Accidents.—Comte de la Hault read a paper on Aviation Accidents, and he spoke in great praise of the Public Safety and Accidents Investigation Committee of the Royal Aero Club, detailing some of the work of that committee.

APPENDIX A.

Cartographique Conference at Vienna, June 17th and 18th, 1912.
This conference was attended by Mr. Griffith Brewer on behalf of the Royal Aero Club.

Various suggestions for the method of compiling maps for aeronautical purposes were made, such as the marking of all railways black, rivers and water blue, forests green, and signs being inserted to indicate landing places, hangars, churches, &c. It was also suggested that the roads should be left white, because they appear white when viewed from above.

It was decided that each sheet of $\frac{1}{1000000}$ should be divided into twenty-five sheets of $\frac{1}{2500000}$, this latter being equal to about $\frac{1}{2}$ in. to the mile. It was also decided to count 260° in one direction, Greenwich being 180°. Instead of counting 90° North and 90° South of the equator, 180° North of the South Pole should be counted.

Mr. Griffith Brewer, the British Delegate, opposed the marking of forests green, because of that colour already being so largely in use in English maps for indicating low altitudes. The policy adopted on behalf of England was to prevent changes being suggested which were too drastic in their alteration, because if too much change were required it might result in the expense preventing the maps being made at all. The Royal Aero Club was not committed in any way to any hostile view of any of the more drastic suggestions which were in themselves good in many instances, and this attitude was successful in preventing the adoption of any great changes.

The report then went forward to the F.A.I. Meeting held subsequently, with everything carried unanimously.

APPENDIX B. *Laws of the Air.*

The meeting in Brussels on May 18th and 19th, 1912, of the Commission on the Laws of the Air, was attended by Delegates from thirteen different countries, Mr. Roger Wallace, K.C., and Mr. Griffith Brewer attending on behalf of the Royal Aero Club.

On Mr. Wallace's suggestion that the national side of the law was a matter for interior regulation, it was agreed not to go into details concerning each country, but to draw up the basis of an agreement combining both the theoretical and practical points of view from an international aspect.

The programme was divided into four sections, namely:—

1. Regulations dealing with the right to circulate above the territory of the countries forming part of the *Fédération Aéronautique Internationale*.

2. Measures to be taken *re* national defence.

3. Customs regulations.

4. Regulations controlling aerial circulation.

A sub-committee was appointed, consisting of the technical delegates representing England, France, Holland, Germany and the United States, to draw up a programme dealing with the regulations for aerial circulation.

Mr. Roger Wallace, the British delegate, pointed out that the regulations relating to circulation threw the onus on the aircraft of carrying the necessary legal papers because the machine cannot fly alone, whereas the pilot should be held responsible, and the rules were altered accordingly, so as to make the pilot responsible.

The report of the sub-committee was received, and it will be observed that the rules of the road are practically the same as those previously made by the Royal Aero Club, especially with regard to the distance of 100 metres being maintained in all directions between two passing aircraft, except when passing to the left, when 300 metres distance must be maintained.

It was further decided—

a. That the subjects of signatory States should enjoy the benefits of the treaty in all the other signatory States, and should be bound by the obligations thereof.

b. No modification of the treaty should be made without the consent of the other signatory States.

It was resolved that delegates from Belgium, France and Germany be appointed to draw up and submit a report.

The report was to deal with the scope of the Commission, and should embrace the following points:—The collection and classification of all works dealing with the legal side of aeronautics; damage to crops, &c.; protection of aeronauts and aviators from actions by third parties, &c.; and the drafting of a general code of the law of the air. With reference to the collecting of works dealing with the legal aspect of aeronautics it was suggested that a précis of such works should be inserted in the quarterly bulletin of the *Fédération Aéronautique Internationale*, and that the Institute in Brussels already engaged in collecting such works be asked to co-operate with the *Fédération Aéronautique Internationale* in this connection.

The following measures were carried:—

I.—*Proposed Treaty regarding International Aerial Circulation.*

ART. 1.—The subjects or citizens of each of the signatory States shall enjoy the advantages of the present treaty in all the other signatory States. They shall be bound by the obligations attendant thereon.

ART. 2. No modification may be made in the present treaty without the common consent of the other signatory States.

ART. 3. Each signatory State may, for its part, renounce the present treaty at any time.

ART. 4. The prescriptions of the present treaty apply to aircraft. By aircraft is meant free balloons, dirigible balloons and aeroplanes.

II.—*Conditions of Circulation.*

ART. 5. Every aircraft pilot is allowed to circulate above the signatory States, to land thereon and ascend therefrom, provided the following papers are carried:—

1. A certificate of registration.

2. A F.A.I. certificate.

Each pilot must conform to the prescriptions of the present treaty and to the laws and regulations of the country where he may happen to be.

ART. 6. Every aircraft must carry on two sides, in such a manner as to be plainly visible, the registration numbers which shall identify such aircraft as well as an indication of the country where the formalities of registration have been complied with.

ART. 7. The name of the country where the formalities of registration have been complied with shall be indicated by the following letters:—

Germany...	D	United States	U	Holland ...	PB
England ...	G.B.	France ...	F	Argentine Republic	RA
Austria ...	OE	Hungary ...	H	Sweden ...	S
Belgium ...	B	Norway ...	N	Switzerland ...	S.S.
Egypt ...	EG				

III.—*Customs.*

ART. 8. An agreement will be arrived at between the various signatory States with a view to arranging a system of customs regulations applicable to aircraft.

Rules relating to Aerial Navigation.

ART. 1. *Regulations re Lights.*—The regulations concerning lights must be observed from sunset to sunrise in all weathers. The use of lights, other than those prescribed, is authorised, on condition that such lights are not exposed so as to be taken for the prescribed lights.

ART. 2. *Dirigibles.*—A dirigible balloon under way, that is to say, moving under its own power, must carry:—

a. At the head, a brilliant white light arranged in such a manner as to throw an uninterrupted beam over a horizontal arc of 220°, that is to say, from right ahead to 110° on either side.

b. On the right, a green light arranged in such a manner as to throw an uninterrupted beam over the whole of a horizontal arc of 110°, that is to say, from right ahead to 20° abaft the beam on the right.

c. On the left, a red light arranged in such a manner as to throw an uninterrupted beam over the whole of the horizontal arc of 110°, that is to say, from right ahead to 20° abaft the beam on the left.

d. The three lights, white, green and red, must be visible in each vertical plan corresponding to their respective zones in each direction comprised between the vertical downwards and the line as nearly as possible approaching to the vertical and making an angle of at least 30° above the horizontal.

e. The green and red side-lights must also be provided with shields or screens arranged in such a manner that their light cannot be seen on the opposite side.

f. The white light must be visible at a distance of at least 4 kiloms., and the green and red side-lights at a distance of at least 2 kiloms. on a dark night with a clear atmosphere.

g. A dirigible balloon must in addition display a white light permanently arranged at the rear.

ART. 3. *Aeroplanes.*—The rules relative to lights also apply to aeroplanes, but as a temporary measure of tolerance they are only obliged to carry a single lamp or beacon arranged in such a manner as to show the regulation lights.

ART. 4. *Free Balloons.*—Free balloons must always carry a white light ready for use, and display the same on the approach of another aircraft.

ART. 5. *Audible Signals.*—a. During fog, mist, snow or heavy rains aircraft must, by day as well as by night, make use of powerful discontinuous audible signals.

b. In the same circumstances free balloons must also make use of such signals whenever they are in the neighbourhood of motor-driven aircraft.

ART. 6. *Rules of the Road.*—A motor-driven aircraft must always keep at a distance of at least 100 metres from another aircraft in every direction, whether horizontal, vertical or oblique.

ART. 7. Motor-driven aircraft must always keep out of the way of free balloons.

ART. 8. Any aircraft approaching another aircraft in no matter what direction, must always take to the right unless it is and remains at a distance of at least 300 metres.

ART. 9. Whenever a dirigible balloon stops voluntarily it must display a conspicuous black ball; in this case it is subject to the same rules as an aircraft under way.

If it is no longer under control owing to a breakdown of any kind it must display two conspicuous black balls placed vertically one above the other; in this case it shall be treated as a free balloon.

At night, in both cases, it shall only display a white light and be treated as a free balloon.

ART. 10. *Landing and Distress Signals.* — When a dirigible balloon is about to land it must:

BY DAY, display a triangular red flag on the under side of the nacelle.

BY NIGHT, wave a white light, or cause it to flicker, at the same time keeping the regulation lights burning.

ART. 11. *a.* In case of distress when above ground, as well as when above the sea, a dirigible balloon must—

BY DAY, display a triangular red flag on the under side of the nacelle in addition to the two superposed black balls mentioned in Art. 9.



THE CATASTROPHE ON SALISBURY PLAIN.

FROM the evidence as clearly given by Capt. Brooke-Popham and Corporal Ridd at the inquest on the bodies of Capt. E. B. Loraine and Staff-Serjeant Wilson, who met their deaths in the smash on Salisbury Plain on the 5th inst., it would appear that the great skill of Capt. Loraine had engendered an excess of confidence



The late Capt. E. B. Loraine, who met with a fatal accident at Salisbury Plain whilst flying last week.

BY NIGHT, wave a white light, or cause it to flicker, and at the same time extinguish the side-lights.

By day as well as by night it must, in addition, make use of an audible signal.

b. A free balloon in distress must—

BY DAY, display a triangular red flag on the under side of the nacelle, and

BY NIGHT, wave a white light. It may, in addition, by day as well as by night, make use of an audible signal.

ART. 12. *Use of Ballast.*—It is only permissible to use as ballast, materials which are not likely to cause harm to third parties, such as fine sand or water.



in his ability to control the Nieuport machine. It appeared that during a previous flight with Corporal Ridd, a similar incident to that which ended fatally occurred but then as the machine was at a height of 1,000 feet, Captain Loraine was able to correct it, and make a safe landing. After testing the motor, Staff-Serjeant Wilson took Corporal Ridd's place and the fatal flight was started. The monoplane was steered in the direction of Shrewton and at the end of Fargo Plain a sharp turn was attempted. The machine then side-slipped and dived, and as the machine was only about 400 feet this movement could not be corrected in time. Lieut. Fox flew over to the scene of the accident and did what he could, and assistance was soon at hand. Staff-Serjeant Wilson died within a few minutes as he had sustained a broken neck, while Captain Loraine having fractured the base of the skull died ten minutes after admission to Bulford hospital. At the inquest a verdict of accidental death was returned and the jury expressed their sympathy with the relatives of the aviators.

Both Capt. E. B. Loraine, who was in the Grenadier Guards before his appointment to the Royal Flying Corps, and Staff-Serjeant Wilson were extremely popular on Salisbury Plain, and at the funeral of the latter at Andover on Monday all the regiments in the southern command were represented. Capt. Loraine's body was taken to his home at Bramford, near Ipswich, for interment, but it was conveyed from Bulford Hospital to the station with full military honours on Monday.

Capt. Loraine learnt to fly on a Valkyrie monoplane at Hendon, but at Salisbury Plain he had piloted quite a variety of types of machines.



ROYAL AERO CLUB'S EASTCHURCH FLYING GROUNDS.

THE weather has not been altogether that which could be desired for flying during the past week, owing to the incessant wind; however, intervals have been snatched here and there for practice and test work.

On Tuesday, Lieut. Grey with Lieut. Sheppard as passenger, put in some practice on the 70-h.p. Short Tractor Hydro-Aeroplane T 5, among the Destroyer Flotilla in the Medway preparatory to leaving for Portsmouth, where the Naval Aviators, Commander Samson, Lieuts. Grey and Malone flew on the Short machines, doing scouting and bomb-dropping work among the Fleet.

On Wednesday, Commander Samson was out on School machine T 1 followed shortly afterwards by Lieut. Malone on T 2 which he flew from the aerodrome to H.M.S. "London," where she was shipped for Portsmouth. In the afternoon, Major Brocklehurst took out the Brocklehurst monoplane and while taxiing rather fast, and at the same time making a sharp turn down wind, the machine turned completely over pinning Major Brocklehurst beneath it, luckily without personal injury, and except for a broken wing and damaged radiators the machine suffered no harm, the fuselage and landing chassis remaining intact.

Thursday, Commander Samson and Lieut. Grey with Lieut. Trewin and Sheppard as passengers, flew Naval Tractor Hydro-Aeroplanes to Portsmouth from the Medway via the coast; Commander Samson flew the 196 miles without a stop in a little over 3 hours, Lieut. Grey was obliged to descend at Newhaven for engine adjustments, and after a brief stay resumed the journey.

Friday, what with adverse winds and absence of the naval machines no flying was done.

On Saturday Captain Gordon took out the Henry Farman and afterwards instructed Private Edmunds on the School biplane. Mr. Ogilvie out on N.E.C.-engined Wright.

Sunday being a closed day for the Admiralty, no flying was done with the exception of a Wright machine being out, and taking passengers, Mrs. Morgan, and afterwards Mr. Searight; on Monday evening Lieut. Gregory was flying the Etrich monoplane several circuits. On Tuesday morning early, Captain Gordon put in some practice on the Short monoplane.

FROM THE BRITISH FLYING GROUNDS.

Brighton-Shoreham Aerodrome.

ON Wednesday last week, Mr. G. N. Humphreys out rolling for the first time. Mr. F. B. Dowland on Friday doing straights, while Mr. G. N. Humphreys, getting more used to the machine, was rolling again. Saturday, Mr. G. N. Humphreys started doing hops. Sunday afternoon, Pierre Verrier arrived in a 70-h.p. Renault-Maurice Farman biplane, carrying a passenger, having made a splendid flight. Starting from Hendon at 4.17 p.m., and travelling via Richmond, he was sighted from the aerodrome due north, flying about 1,000 ft., and very steady, a stiff breeze having sprung up. He made one circuit of the aerodrome, and then with a splendid *vol plané* landed close to the hangars at 5.35 p.m.

Mr. F. B. Dowland doing—Monday morning—right and left turns in excellent style, and Mr. G. N. Humphreys good straight flights. Tuesday morning at 4.15 Pierre Verrier started from the aerodrome to proceed to Spithead, carrying a passenger who was to take photos of the naval scene.

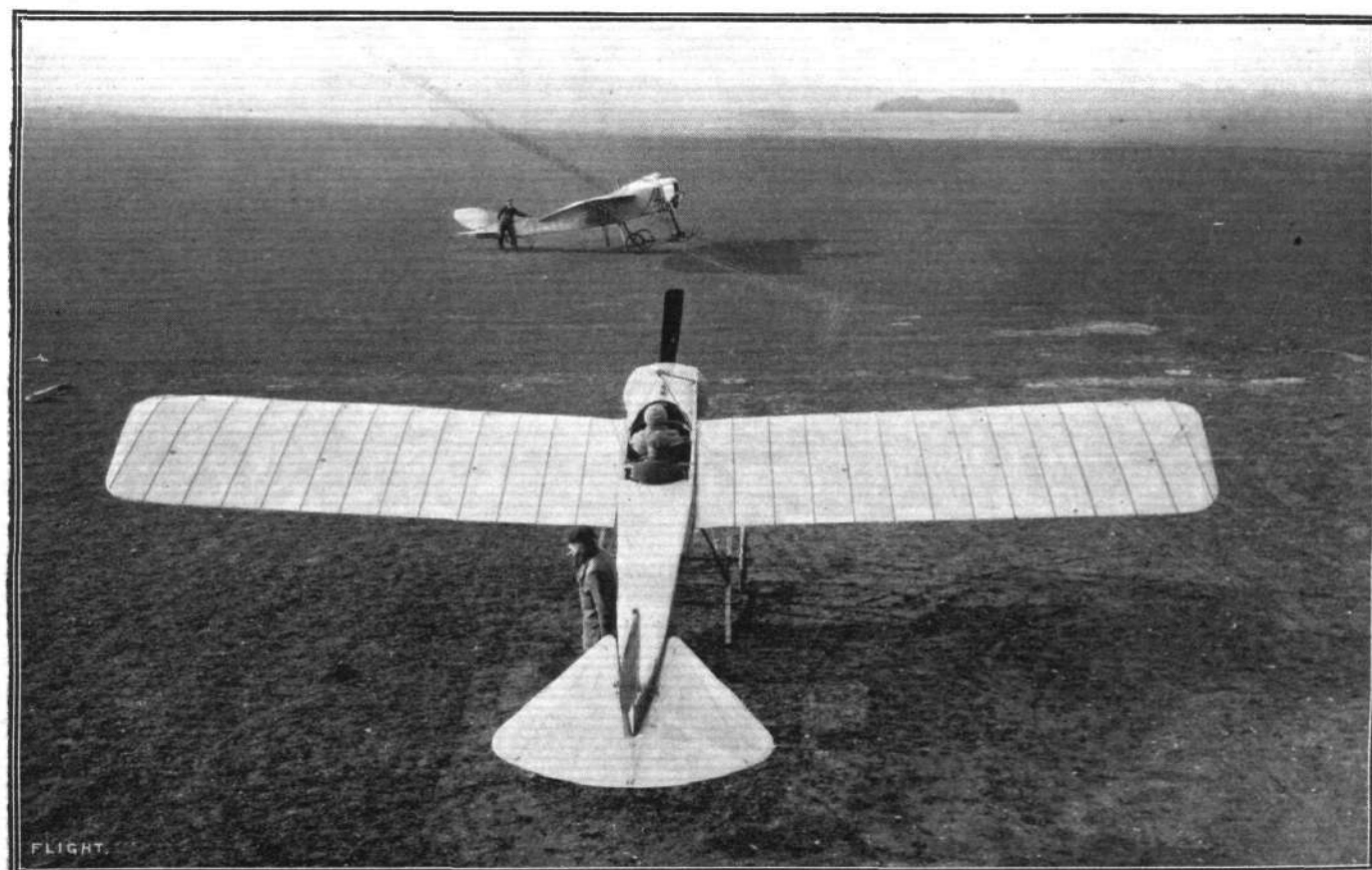
Brooklands Aerodrome.

LIKE other flying centres, the weather has interfered considerably with the flying work at Weybridge.

On Saturday last at Brooklands the many spectators that came down to see the flying were provided with as good an assortment of machines and flying that could be wished. First machine out was Mr. Spencer on his biplane, who made a circuit or two close to the people in the enclosure. Then came Mr. Sopwith on the Burgess-Wright biplane who seemed in one of his playful moods by the way he shot up 50 ft. or so in jumps at an incline of about 1 in 3, and buzzing round at wonderfully sharp angles. Then out came Mr. Hotchkiss on the well-known old Bristol biplane, the type that holds the English record by a long way for turning out pupils. He ran this up a couple of hundred feet or so and flew round the sheds and enclosure, doubling in and out as much for his own pleasure as that of the spectators. In the meanwhile Mr. Gordon Bell went off on the Burgess-Wright with Mr. Smith Barry as passenger and piled on the bank at the turns till the machine nearly turned within its own dimensions. The next machine to appear was Mr. Sopwith's new biplane after the fashion of the Burgess-Wright, but with a 70-h.p. Gnome tractor. Mr. Sopwith had got two passengers up besides himself and went soaring up to about 600 ft. then turned out for Weybridge and disappeared, returning in about 10 mins. to the aerodrome. Mr. Merriam was to be seen on the Bristol biplane

with a passenger up behind controlling doing several circuits. Mr. Hotchkiss then brought out the Bristol-Anzani monoplane, and after flying for about 10 mins. to test its abilities handed it over to Mr. Bettington, a pupil who went away rejoicing. Lieut. Hewlett brought out the small Farman biplane and circled round for perhaps 20 mins., then handed it over to Mrs. Hewlett, who handled it as she always does in a skilful manner. By this time the ground had got so crowded with machines that it was getting quite hazardous to be flying within the aerodrome, so Mr. Hotchkiss took a pupil, Major Higgins, up in a biplane and went off to Chertsey, dropping down when over the river to see the fun and excitement his appearance had caused to the many hundreds out boating. While this machine was away Mr. Sopwith appeared upon a third machine, the latter being the large 100-h.p. Coventry Ordnance. She went lopping away in a very steady manner, and flew many circuits and *vol plané* at an exceedingly comfortable angle, and although the wheels are in no way sprung she lands more comfortably than scarcely any other machine. The very large tyres seem to be an excellent method of shock-absorbing. Mr. Gordon Bell appeared upon the new Martin Handasyde 'bus, and when testing its engine in front of the enclosure a general murmur of admiration could be heard of the workmanship put into this splendidly turned out machine. Unfortunately, since its appearance the engine has been giving a little trouble, and although it was not pulling as it ought, Mr. Bell made several circuits at about a couple of hundred feet, and gave a good demonstration of the machine's abilities. Lieut. Porte was out on two-seater Deperdussin doing circuits at about 300 ft. A new and very good arrival at Brooklands is the Flanders monoplane, which was flying round amongst the other machines piloted by Mr. Raynham. This machine was very distinctive from the rest, and the way Mr. Raynham flew her is indeed worthy of praise. This was the first time she appeared flying circuits, and she certainly does great credit to both designer and pilot. Mr. Macdonald was also out on the Vickers monoplane, flying at a good altitude and putting up a really fine show. He is an exceptionally fine flyer.

On Sunday evening a larger crowd of spectators saw equally as good a show of machines and flying. Mr. Spencer, Mr. Sopwith and Mr. Hotchkiss were first out on biplanes, when a thunderstorm looked like bursting over the ground, and all machines were housed for safety for about half-an-hour. In the meantime, Mr. Hotchkiss, to provide interest to everyone, offered a free passenger flight to be



FAMILIAR OBJECTS ON SALISBURY PLAIN.—A couple of the double-seater Bristol monoplanes.

raffled for. Keen interest was shown, over 70 names being put into the hat for the chance. Miss Sopwith kindly made the draw and the lucky number was 13, giving Mr. Mackie the chance of a flight which he readily accepted. Mr. Hotchkiss then had his biplane brought out and flew three circuits of the aerodrome greatly to the satisfaction of his passenger, Mr. Mackie, who expressed keen admiration of the pleasures of flying. After this the ground soon became crowded with machines, the air at one time getting very bumpy, through backwashes. A slight mishap lent excitement to the proceedings by a pupil of Mr. Sopwith's, who had just landed on a Farman biplane, running into the Bristol monoplane which was on the ground having just come to a standstill. The poor Farman's right lower plane suffering very considerably from the impact but with the exception of a broken propeller the monoplane was scarcely damaged. At one time there were to be seen on the ground in front of the public enclosure and in the air as many as 13 machines all being of different makes or types. Many times there were 6 and 7 machines flying at the same time. Surely should anyone be really interested in flying the assortment of machines and pilots to be seen at Brooklands is well worth a visit. It would be a task to find any ground in England and few on the Continent to surpass or even equal such an assortment of machines on two evenings running as did Brooklands this last week-end.

Vickers School.—Macdonald, on Thursday evening last week about 6.30, got into the air, but wind was too high. At 7.30 p.m. he went out again doing circuits and then handed the machine, No. 5, on which all work has been done during the week, over to Capt. Darbyshire, who was out for 40 minutes doing straight lines and showing great improvement.

Next day, Macdonald was out at 5.30 a.m. to test machine before handing it over to Capt. Darbyshire, who was up for half-an-hour, doing straight lines and curves. He was followed by Knight and Hunter, who both did well.

Macdonald, on Saturday evening was doing circuits at an average height of 200 feet over the surrounding country, and on Sunday both Capt. Wood and Macdonald were on No. 5 testing, but the wind was far too gusty to allow of much flying.

Tuesday Capt. Wood was out early testing, followed by Knight and Hunter. Machine being out altogether for two hours.

Eastbourne Aerodrome.

WEDNESDAY excellent weather prevailed all day. Lieut. Brown

putting in some practice in the morning doing several excellent short hops. Lerwell and Gassler were both out in the evening. Lieut. Brown on Thursday morning made his first short flight. Friday the weather was unfavourable for pupils, but on Saturday Lieut. Brown was able to get out early and after one or two tries got the machine off the ground, but had a slight mishap when landing breaking a longitudinal and two vertical struts. Mr. Lerwell was out in the evening doing straight rolls in excellent style and seems now to have quite mastered the groundwork of the Anzani control.

Mr. Fowler took up Gassler and Lieut. Brown as passengers in the two-seater Blériot.

Liverpool Aviation School, Waterloo (near Liverpool).

THURSDAY, last week, Hardman made several straight flights in strong east wind, and on Sunday he and Birch were both making straights and circles. Melly was on the two-seater and flew as far as the Freshfield hangars and there turning inland, passed over the Formby golf links returning across country after a flight of 18 miles, maintaining a height of 1,000 ft.

Both Hardman and Birch were out on Tuesday again each making a series of straights between 1 and 2 miles each in a 20-mile north wind.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—A windy week indeed, and no school work on Tuesday, Thursday or Friday last week.

On Monday, in the morning, F7 was out, with Mr. Travers in charge. Mr. Kershaw doing straights and circuits. Capt. Salmond and Commander Yeats-Brown, straights; Baroness Schenk, Mr. Cholmondeley (Lieut.) and Messrs. Wynne and Holscher, straights with Mr. Travers.

In the evening Mr. Turner took up Capt. Salmond for a short passenger flight, to show that it really was too gusty for school work.

Wednesday morning was hopeless. In the evening, Mr. Wynne was up for straights on F7 with Mr. Blackburn, but had to land in rough, and broke a wire. While this was being repaired, Mr. Turner out with Mr. Kershaw on Howard-Wright, preparing the latter for his *brevet*. During this, F7 repaired, and following lessons given: Capt. Nicolas, Mr. Fuller, and Mr. Cholmondeley (Lieut.) straights with Mr. Blackburn; Messrs. Biard and Kershaw circuits, Mr. D. Allen (Lieut.), passenger flights.

Nothing doing Saturday morning. In evening, time was found after the meeting for Messrs. Kershaw and Biard to do some circuits on F7, and Capt. Salmond some straights.

Blériot School.—Many of the School turned up at 4 a.m. on Monday last week and some very good work was done between that hour and 8.15. M. Sacchi did four straights in good style and M. Teulade a similar number, flying very evenly. M. Gaudillon made two rolls across and back and is showing good aptitude. At 7.20 M. Aubert went aloft for his *brevet* and got through the first half in excellent style. He is so keen on flying that the combined flag wagging of about 20 interested spectators was necessary to bring about his descent after the first half of his test, he having by that time put in about eight figure eights and two circuits. M. Aubert is one of those fortunate gentlemen who have absolutely no acquaintance whatever with the term "cold feet," and should make his mark as a pilot.

Weather too bad all day, Tuesday, for any school work. Next day the wind being pretty bad all day dropped suddenly at about 7 p.m., and the pupils who had remained on the ground were rewarded by being able to get in about 1½ hours' good work.

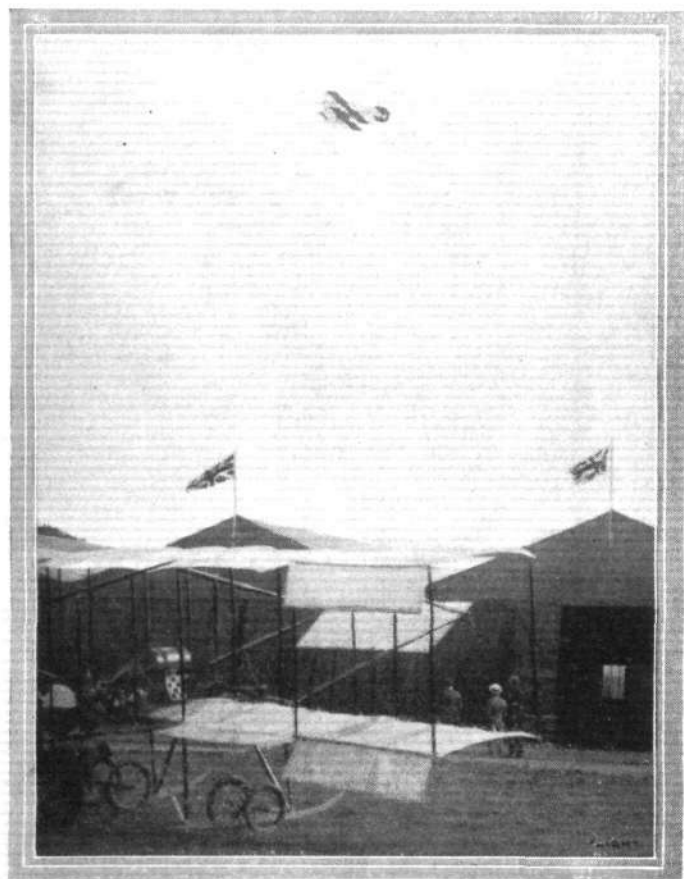
Mr. Hall did three straight flights very well, and Messrs. Teulade and Clappen each flew a brace of straights, both keeping just off the ground and flying very evenly. M. Gaudillon got his tail well off for the first time and did four rolls across and back on the "taxi." The remainder of the week, no school work possible owing to inclement weather.

Deperdussin School.—At the Deperdussin school on Monday last week all pupils out doing good straights on taxi.

Next day Capt. "X," Lieut. Reilly, Harrison, Gill and Brock practising in the morning, all pupils showing marked improvement. Wednesday, Sabelli testing air, found it too rough for pupils. In evening he flew a few circuits in excellent style. Wind blowing all day. Thursday, flying impossible.

All pupils practising on taxi, Friday, Lieut. Reilly and Gill doing their first circuits on the racer at 300 feet in fine style, Harrison and Brock showing distinct improvements in handling machine. All four should receive their *brevets* very shortly. In evening Sabelli flying with his usual skill on racer, landing with engine switched right off.

Saturday, all pupils out early and doing straights, Brock showing also great improvement, flying very straight and steadily and ready for circuits. In afternoon Sabelli made several flights, took part in the Speed Handicap, was second in the first heat and second in the final showing the fine Deperdussin-Anzani Racer to its best advantages and earning a well-deserved success.



"Flight" Copyright.

OFF TO BRIGHTON.—M. Pierre Verrier, with his mechanic as passenger, leaving the Hendon aerodrome for his trip to Brighton on Sunday.

On Sunday Sabelli with his accustomed dash and skill, gave a splendid exhibition on his miniature Deperdussin, banking heavily on sharp turns, and coming down in a splendid spiral *vol plané*. Monday school out practising as usual, Gill, Lieut. Reilly and Brock making circuits, and Capt. "X" and Harrison doing straight flights.

W. H. Ewen School.—On Monday last week school work started at 5 a.m. Baumann was flying circuits on the 28 Dep. making both right and left-hand turns while Edmund, J. H. James, H. H. James and Apcar were flying straights on Blériot. Ware then took out the same machine and flying with great confidence did first left and then right-hand circuits.

On Tuesday the weather prevented any out-door work but on Wednesday evening the school was out again with Ware, Edmund, Chamier, H. H. and J. H. James all getting in practice.

No out-door practice was possible the rest of the week on account of the unfavourable weather conditions till Saturday afternoon when the aerodrome was of course needed for the competition and exhibition flying.

Salisbury Plain.

Bristol School.—There was no flying on Monday morning last week, but towards the latter part of the afternoon an improvement took place and Pizey started school work, taking out Capt. Lucina and Mr. Lywood, both new pupils, for tuition flights. Mr. Smith Barry was flying with Lieut. Gould as passenger, and the following pupils made two solos each on monoplanes: Messrs. Greig, Barnwell, Pickles, Bettington, and England. Busteed was, in the meantime, on one of the two-seater monoplanes, but was driven in by rain and darkness, which prevented further work.

Rain and wind stopped flying all day Tuesday, and work was busily proceeded with in the hangars.

The weather was anything but favourable on Wednesday morning, and the only school work possible was performed by Messrs. England, Greig and Pickles, each of whom made solos on monoplanes. There was no flying at all in the evening.

On Thursday morning the weather was again hopeless, and no outdoor work was attempted. After several trials by Harrison and then by Pizey, school work was commenced in the evening, Harrison starting matters off by taking Captain Lucina and Messrs. Lywood, Cheeseman and Featherstone. Pizey was out with Major Ashmore and Lieut. Brophy, both of whom have just joined the school, together with Lieut. Gould, and all of these pupils handled the control lever. Lieut. Gould was also taken out by Mr. Smith Barry, and showed himself to be quite ready for the solo stage.

Good flights were made on school biplanes by the following:—Lieut. Christy two trips, and is now quite ready for his certificate, this latter remark also applying to Mr. Rawson Shaw, who was also out for a flight.

Prince Cantacuzene, of Roumanian birth, who is undergoing instruction at the Bristol School made his first flight on a Bristol biplane, handling the machine very well, and showing that he has had considerable experience of biplanes. Mr. Lister was out for a trip and showed signs of good progress. Busteed ascended on a two-seater monoplane and carried out a really good flight, solos being made on monoplanes by the following pupils, Messrs. Campbell, England, Greig, Pickles and Barnwell, each making two trips and handling the machine very well, with good landings.

Flying was entirely out of the question on Friday, the conditions being far too bad.

Nothing was done on Saturday until the evening, when after a trial flight Harrison took Capt. Lucina, Mr. Lywood and Major Ashmore, whilst Messrs. Barnwell, Greig and Pickles each made a good flight on one of the school monoplanes, after which Lieut. Christy successfully passed the tests for his *brevet*, being observed by Capt. Carden and Hamilton. Harrison was up with Capt. Lucina and Mr. Lywood, each pupil having charge of the hand control, whilst Busteed gave tuition to Major Ashmore in landing practice. Darkness put an end to further work.

On Sunday morning, after the usual trial, Harrison gave two tuition flights to Captain Lucina, Mr. Lywood, and Major Ashmore. Harrison was also testing biplane No. 66A, afterwards going out for a solo in one of the single-seated monoplanes. In the course of the morning, Messrs. Greig and Barnwell each made ten straight flights on school monoplanes, both pupils showing good progress. Busteed was out for a test flight on one of the monoplanes, reaching about 400 ft., after which nothing further was done; wind prevented any flying in the evening.

Royal Flying Corps.—Wednesday week opened very dull, foggy and rainy, but in spite of this Lieut. Fox made some fine flights around the Downs on the two-seater 70-h.p. Gnome-Blériot. Capt. Burke followed on B.E. 1 biplane—a factory-made machine—and Capt. Loraine, on the Nieuport monoplane, did some fine scouting work at a good height. Capt. Brooke-Popham was also out on the Avro, and Sapper Spencer, on biplane F. 8, was practising

landing and taking off. In the evening all the officers and men were out again.

On Thursday there was a stiff wind blowing, but Lieut. Fox made four flights with passengers on B.E. 3 biplane. He afterwards changed over to another biplane, and at a great height did some fine banking work, both right and left-hand. Changing over again, he went up on the two-seater Blériot monoplane. Lieut. Mackworth made five good flights, and Capt. Loraine, while rolling the Nieuport on the ground, broke the axle. This was soon replaced by another one, and a short test flight was made, with some sharp turns. On landing he got into a biplane, and Capt. Brooke-Popham, on the Avro biplane, made several good flights, taking up Staff-Sergt. Wilson. Also he took-off again, flying around Knighten Downs, putting in some useful bomb-dropping and signalling practice. Lieut. Hartree made five flights in a biplane with passengers, also giving instruction in flying to Sapper McCudden. Staff-Sergt. Wilson made three flights, followed by Corporal Ridd. Capt. Hamilton brought out the Deperdussin monoplane, which has been overhauled. In all twenty-seven flights were done, the R.F.C. having seven machines out. Corporal Ridd was busy testing engines.

Early on Friday morning Lieut. Fox, on B.E. 3 biplane, was flying around the Downs. Lieut. Mackworth on a biplane was scouting around the Plains, and Capt. Loraine on the 70-h.p. Nieuport, with Corporal Ridd as passenger, was flying at a height of 1,000 ft. On banking his machine made a side-slip, but recovered, and on landing, Capt. Loraine took off again with Staff-Sergt. Wilson as passenger. He was flying very steadily until reaching Winterbourne Stoke, off the Salisbury and Devizes road, when the machine was seen to drop from 300 to 400 ft. during a very sharp turn. It was smashed, and Staff-Sergt. Wilson was killed on the spot, while Capt. Loraine died on reaching hospital some few minutes afterwards. Work was suspended until the evening, when Lieut. Fox was out on B.E. 3 biplane, flying around Winterbourne Stoke, and Capt. Hamilton was out on the Deperdussin monoplane, the engine of which was working badly.

On Saturday, the wrecked Nieuport monoplane was burnt, and what was left afterwards dismantled.

No outdoor work was done on Sunday, and on Monday Capt. Loraine's funeral procession left Bulford Camp hospital at 9.15 a.m., to entrain at Bulford station by the 9.55; all units turned out to pay their last respects. The funeral, at Andover, of Staff-Sergt. Wilson, which was also attended by all units, including Generals, Staff Officers and Naval Officers, while wreaths were sent by Sir Lambton Loraine, Lady Loraine, No. 3 Squadron, Officers R.F.C., Officers attached R.F.C., N.C.Os. 3 Squadron, men 3 Squadron, N.C.Os. 2 Squadron, N.C.Os. Airship Squadron, &c., &c.

In the evening Capt. Burke took off in B.E. 1 biplane with passenger Sapper Mullins. Also Lieut. Mackworth on B.E. 3 biplane left for Farnborough, fair wind. Capt. Brooke-Popham on Avro made some good high flights and on landing took off again, flying at a good height for 25 mins. Capt. Hamilton made two useful flights at a height of 600 to 800 ft. on the Deperdussin monoplane signalling with a syren. Lieut. Fox made several flights on an old biplane, taking up pupils as passengers and giving tuition to McCudden and Stregnell. Tuesday, Lieut. Fox and Capt. Hamilton were putting in some scouting practice around the plains, and McCudden and Stregnell were doing straight flights.



AIRSHIP NEWS.

Long Trip by "Schutte-Lanz."

THE first really long voyage by the German dirigible "Schutte-Lanz" was made on the 4th inst., when she sailed from Mannheim to Cologne. Leaving Mannheim at 2.40 a course was steered to Ludwigshafen and so to the River Rhine, which was followed past Worms, Bingen, Coblenz, Neuwied and Bonn to Cologne, which city was reached at 7.10. Twenty minutes later the rigid dirigible, which, it will be remembered, has a wooden framework, was docked in the Bickendorf shed.

Over-Sea Voyages by "Victoria Louise."

ON the 5th inst. the Zeppelin dirigible, "Victoria Louise," left Hamburg on a cruise to Föhr, Westerland and back, the outward trip taking nearly four hours. Several of the prominent citizens of Westerland were on board during the return trip to Hamburg which, by way of Sonderburg, Alsen and Kiel took 4½ hours.

Two days previously the airship with 17 persons on board made a cruise of a little over four hours passing over Tranemunde, Wismar and Lubeck. The day before a long trip was made in the Mecklenburg district, passing over Schwerin and Kiel.

It is proposed to send the airship to Copenhagen at the beginning of September, while she will go afterwards to Dresden for the autumn manoeuvres.

AIR EDDIES.

AMONG the pupils learning at the Bristol schools is Prince Cantacuzene, of Roumanian birth. He is learning on a Bristol monoplane, and as far as I can recollect is the first Prince to take flying lessons at an English school.

Last Sunday, Sydney V. Sippe, chief pilot of the Hanriot school at Brooklands, left for Rheims, where he is going to try out one of the new 100-h.p. three-seater monoplanes, which he is going to fly in the War Office trials at Salisbury during next month. As I mentioned some time previously, Bielovucic will fly the other.

Among the entries for these competitions that we published last week were no doubt noticed two or three names which seemed new to many of us. Then again there was one unfortunate printer's error—the C. E. King should have been Cecil E. Kny, who will be remembered as having superintended the construction of the "Knyplane," the exceptionally solid monoplane that Messrs. Mulliners exhibited on their stand at the last English Aero Show.

Mr. Kny is entering a Mars monoplane, a machine that emanates from the Deutsche Flugzeug Werke at Leipzig. A photograph and some few particulars of this interesting machine will be found on another page of this issue.

Mr. A. M. Harper is entering a monoplane which is at present under construction at the Weston Hurlin works in Paddington. The section of its fuselage is lozenge shaped, and it will be equipped with a 60-80-h.p. Green motor. Some degree of originality is to be noticed in the landing carriage, for it is a composite structure of bamboo, ash and steel tubing. Its wheels and skids are Farman pattern.

Messrs. Jacob Lohner and Co. is an Austrian firm with works at Vienna, where they produce Etrich monoplanes and machines of



"Flight" Copyright.

A characteristic attitude of Mr. Gustav Hamel after one of his remarkable flights at Hendon.

their own design. They are entering a tractor biplane, known over there as the Arrow-Plane Dreadnought, equipped with a 120-h.p. Austro-Daimler motor. It was on an identical machine that Lieut. Von Blaschke broke the world's altitude record with passengers at the Vienna flying meeting last month by taking two besides himself up to 3,500 metres, and by taking one single passenger to a height of 4,260 metres.

Lieut. Von Blaschke himself is probably going to fly the machine at the competitions at Salisbury.

That entered by the Mersey Aeroplane Co. is a monoplane of particularly clever design. Pilot and passenger sit side by side in a racy little body which has a 45-h.p. Isaacson motor clamped to the front and the propeller, shaft driven, at the rear. The wing span is 35 ft. and overall length 24 ft.

Regarding the two Blériot monoplanes that will be seen at Salisbury during next month, Gustav Hamel will probably be entrusted with the piloting of both. As a pilot of this monoplane Hamel in this country stands absolutely unrivalled. Even on the Continent it is doubtful if any could give him points in its handling unless, perhaps, it be Garros or Simon. Just lately at Hendon he has been favouring the spectators with an entirely new batch of exhibition "stunts." His banks are terrific, his corkscrew descents with engine on are truly appalling. Yet, although this type of flying gives me, and many more like myself, a cold feeling that extends right up to the knees, Hamel says that never once has he felt his Blériot getting the tiniest bit beyond control. No one blames him for his confidence in the Blériot, but at the same time everyone wishes he would quiet down a bit.

Hamel is, by the way, the latest to join the merry band that, thanks to the *Daily Mail*, are carrying on mission work and educating the public to a full appreciation of the value of the aeroplane throughout the country. There are now seven all told, Grahame-White, Hamel, Ewen, Hubert, Salmét, Lieut. Parke and Fischer.

The new 70-h.p. Henry Farman biplane that Grahame-White recently flew by stages from Paris with a passenger, his chief engineer Carr, is about the finest machine that Farmans have turned out up to the present. Steel tubing enters a great deal into the construction of this machine. It is used for the landing carriage struts, the tail outriggers, the rudder skeleton, and for parts of the engine bed. Standing at one end of the machine the *cellule* seems to fade away into the dim distance, as may be judged from a photograph in this issue, for the top plane has a span of no less than 57 ft. Its average chord is about 5 ft., which brings the aspect ratio of that particular surface to 1 in 11½.

This, of course, accounts for its miraculous gliding angle. In arriving at Hendon, with a passenger up, his propeller stopped dead while he was yet 900 ft. in the air. Before he touched ground he had, in coming down the 900 ft., circled the aerodrome no less than five times.

The machine is so arranged that it may be transformed from a land flying machine to a water flying one in less than an hour and a-half. The chassis bearing the hydroplane floats is a great deal higher than the ordinary wheeled chassis; this to keep the showers of spray set up in landing and starting as far away from the propeller as possible. To further safeguard that organ, its tips are sheathed in copper sheeting. It was, by the way, interesting to notice that many of those pins fastening the sheeting at the very tip of the propeller had long since flown off on their own through the centrifugal action.

As for the machine's flying qualities, Grahame-White told me that one finger on the control lever was quite sufficient to control the machine in any of the wind he met when flying from Paris. To a great extent the machine seems to look after itself in the air.

When I asked if he experienced any difficulty in landing on water for the first time he replied, "Not the slightest, it is just as easy as landing on land, but you should try to let the tail touch first."

Others whom I have questioned reckon it is the best plan, for the first time or two at least, to approach the water with the engine going, and not to switch off until the water has actually been touched. They would not advise *vol planing* down to the water at the first attempt to land with a hydro-aeroplane.

Frank Hucks does not seem to have had such good luck with his second Farman hydro-aeroplane, for from what I hear at the time of writing Hubert has somehow succeeded in "doing it in" pretty completely. But I won't say too much about it, it may not have been his fault.

Flying, as well as Spring, seems to turn men's fancy to thoughts of love. Just lately I have mentioned many that have fallen victims to the lure of the pretty face and the charming personality. Yet another is Lieut. W. Lawrence, who is engaged to Miss Doris Hart Davis, the youngest daughter of Mr. and Mrs. Hart Davis, of Chester.

Lieut. Lawrence, has, by the way, been appointed to the Royal Flying Corps, in which body he will take up service on Friday next. Congratulations on both scores.

On the Continent it seems that much the same sort of thing exists. Espanet, who is a fully qualified medical man, and, besides, *chef pilote* of the Nieuport school, has married Miss Lottie Brandon, an American lady, and former pupil of the same flying school.

He will be recollected as having done so well in the Anjou circuit.

Both Vedrines on the Deperdussin, and Helen on the Nieuport, mean to attack world's speed records before very long.

Jules Nardini had a pretty exciting adventure while flying back to Hendon from Birmingham on Monday last. He was overtaken by a thunderstorm and so dashed about by the curious wind currents in the storm region that he says he reckoned his last moment had arrived. The mist below him cleared, and he found himself over clear landing ground. By a sheer fluke he had struck the Portholme Aerodrome at Huntingdon. He resumed his trip to Hendon last Tuesday evening, arriving without incident. On his 50 Gnome Deperdussin he uses one of those curious "Cyrnos" rotary wing propellers which seems to give very good results.

Very satisfactory progress is being made with the new 6-cyl. N.E.C. engine designed to develop 80-90-h.p. It has been on the test-bench for some time past, and before very long will be ready for the market. If it will give—and there is no reason why it shouldn't—as good service, in the same ratio, as the little 50-h.p. model that Mr. Alec Ogilvie has been using on his Wright biplane during the last year at Eastchurch, it will certainly prove a remarkably good proposition.

A proposal is on foot to present Mr. T. O'B. Hubbard, on his retirement from his position of secretary of the Aeronautical Society in August next, with a token appreciative of the sound work he has done for them during the four years he has held office in that capacity. Subscriptions should be forwarded to Mr. B. G. Cooper, c/o Aeronautical Society, 11, Adam Street, Adelphi.

"OISEAU BLEU."

BRITISH NOTES OF THE WEEK.

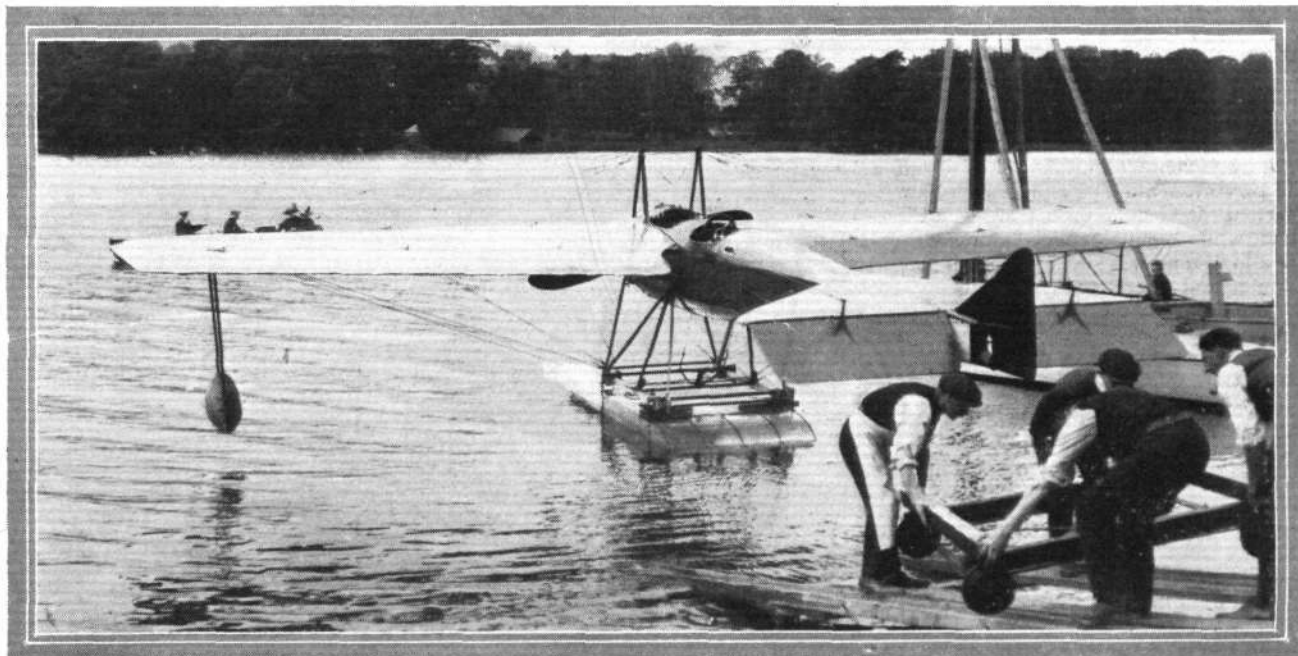
Mr. Grahame-White Flies Across the Channel.

HAVING heard that his Farman hydro-aeroplane was ready for delivery, Mr. Claude Grahame-White decided that it would make a fitting conclusion to his honeymoon trip if he flew it over to England. Starting from Buc, he got as far as Pont Remy, near Abbeville, on the 5th inst., and there decided to stay the night. The next morning he continued on to Boulogne, covering the 90 kiloms. in an hour. There he had floats fitted to the machine, and on Sunday morning, with his mechanic, Carr, flew across the Channel. Owing to the fog he got rather off his course on arriving at the English coast and came down on the water at Dimchurch to ascertain his position, and then went on to Folkestone, where he came down near the harbour. Mrs. Grahame-White crossed the Channel on the steam yacht "Majesta." During the day a start was made for Hendon, but a landing had to

be made on the cliffs above Folkestone, from where a fresh start was made. Motor trouble, however, brought the machine down very shortly, while a third attempt only permitted of Sidcup being reached, and there it was decided to stop for the night. Continuing the journey in the morning, Hendon was safely reached in good time. Mr. Grahame-White was accompanied throughout the trip by his faithful mechanic, Carr.

The Irish Cross-Country Prize.

ALTHOUGH it is not yet definitely decided, it is expected that the prize offered by the Irish Aero Club for a flight from Dublin to Belfast and back will amount to £600. It is proposed that the competition shall be held during Horse Show week, at the end of August, and it is hoped that some of the crack flyers may be induced to visit Ireland.



One of the Admiralty Deperdussin monoplanes which was flown to Lake Windermere, where it has been converted for hydro-aeroplane work.—In the photo it is seen just launched from its hangar after fitting the floats.

Brooklands Cross-Country Handicap.

THE following are the entries for the cross-country handicap arranged to take place at Brooklands this afternoon in connection with the car race meeting:—

Name.	Machine.	Engine. h.p.	Pilot.
M. Spencer ...	Spencer ...	50 Gnome	Entrant
T. O. M. Sopwith	Farman B.	50 Gnome	—
T. O. M. Sopwith	Burgess-Wright B.	40 A.B.C.	G. Bell
N. S. Percival ...	Caudron B.	35 Anzani	Entrant
C. H. Gresswell	Farman B.	70 Renault	Pierre Verrier
E. Hotchkiss ...	Bristol B.	50 Gnome	Entrant
C. Gordon Bell	Martin Handasyde M.	75 Chenu	Entrant
E. C. Pashley ...	Sommer B.	50 Gnome	Entrant
Capt. H. Wood	Vickers M.	60 R.E.P.	Entrant
Capt. H. Wood	Vickers M.	70 Viale ...	L. MacDonald

B. = Biplane. M. = Monoplane.

Mr. Cody Meets with more Misfortune.

FOLLOWING on the smash which put the Cody biplane out of commission when being piloted by Lieut. Kelly on the 3rd inst., Mr. Cody's new monoplane, described recently in FLIGHT, which has aroused a good deal of interest on account of its original features, was wrecked through a collision with a cow on Laffan's Plain. The monoplane was descending from a flight when the animal ran under it with fatal results to itself and considerable damage to the machine. Mr. Cody was fortunately thrown clear and escaped serious injury.

Hendon to Shoreham on M. Farman Biplane.

FLYING against a 25 m.p.h. wind, Verrier on the Maurice Farman biplane went from Hendon to Shoreham on Sunday afternoon the trip of about 55 miles taking 1h. 18m. On Tuesday the machine took a *Daily Mirror* photographer to Spithead, and after obtaining views of the fleet brought him back to London.

London to Paris and Back.

ON the afternoon of the 4th inst., Mr. Valentine on his Deperdussin monoplane flew across from Dover to Wissant in 35 minutes and later flew back to London. The next day he flew from London to Abbeville and continued his journey the following morning to Issy.

Hydro-Aeroplanes at the Naval Review.

AFTER the splendid series of demonstrations given by Com. Samson and the naval aviators at the manoeuvres a few weeks back, the presence of the hydro-aeroplanes at the Review at the beginning of this week was no novelty. Nevertheless, they did emphasise the fact that this machine is likely to prove a very valuable adjunct to naval work. On the 4th inst., Com. Samson on the Short tractor machine, S 41, started from Eastchurch, followed shortly after by Lieut. Spencer Grey, on S 43. They flew round the coast to Portsmouth, and Com. Samson completed the 194 miles in three hours and a quarter non-stop. Lieut. Grey was, however, brought down at Newhaven, but after attending to the engine started off again for Portsmouth. On this occasion the battleship, "London," of the fourth class, was fitted up as the mother ship, and from her deck, when steaming at 15 knots, Lieut. L'Estrange

Malone flew on S 38 to the shore, a trip of 19 miles. Two flights over the battleships were made by Com. Samson on the 5th inst. On Tuesday afternoon, during the visit of the Members of Parliament, Com. Samson and Lieut. Grey were out on their machines scouting for submarines, and carrying out other instructive manoeuvres.

Mr. Wilson has a Mishap.

IRELAND is none too well supplied with aviators and it is therefore doubly unfortunate that Mr. Corbett Wilson should have met with misfortune when demonstrating his machine at Clonmel. On the 4th inst., he flew the 30 miles from Kilkenny to Clonmel in 20 minutes and after circling round the town attempted to land on the Powerscourt racecourse. It would seem that the pilot miscalculated the distance, as the machine landed very heavily throwing Mr. Wilson on to the framework in front. The chassis was smashed and Mr. Wilson was cut about the face. He was, however, able to proceed home after being attended to at the hospital.

The Daily Mail Tours.

THE work of the *Daily Mail* in educating public opinion in the importance of flying has been considerably extended by the appointment of Lieut. Parke, Mr. B. C. Hucks and Mr. Hamel to give demonstration flights in various parts of the country, in addition to M. Salmat, Mr. Ewen and S. Nardini. It is a little curious that although the Avro machines have for some time been built at Manchester, that city has seen very little flying. On Saturday, however, Lieut. Parke, R.N., made three splendid flights at Old Trafford on an Avro biplane and was also out again on Monday night, when in one trip of a quarter of an hour's duration he was up to a height of 3,000 ft.

On Saturday Mr. B. C. Hucks made a fine flight on his two-seater Blériot from Hendon to Birmingham, covering a distance of about 110 miles in an hour and a-half. He landed at Tiseley just outside Birmingham, and then later went on to the Tally Ho ground. Another demonstration flight was given in the evening when Signor Nardini was also up on the Deperdussin. On Monday Mr. Hucks, after making an exhibition at Birmingham, started off for Wolverhampton, but had to come down at Sedgley Beacon, a short distance from Dudley, owing to valve troubles.

Mr. Ewen, having had his machine repaired, also made a fresh start on Monday, going from Peterborough to Lincoln. He got away very late, and the light was so bad that he had to come down at Scopwith, 9 miles from Lincoln, to inquire his way. He subsequently went on, but, being deceived by the light, landed in a cornfield instead of the athletic ground, and damaged his machine.

The Daily Mail Hydro-Aeroplane Tour.

THE Farman hydro-aeroplane ordered by the Frank Hucks Waterplane Co. successfully carried out its tests at the hands of Fischer on Wednesday of last week. It was afterwards handed over to its owners. It made an hour's flight with a passenger, and afterwards several other shorter tests were made with passengers. No flying was possible on the two following days, but on Sunday M. Fischer flew the machine to Southsea, made a dozen flights with passengers from the beach, and in the evening returned to the Hamble river. The fortunate passengers who took trips had a splendid view of the fleet at anchor.



FOREIGN AVIATION NEWS.

A Russian Mission at Buc.

HEADED by General Gilinski and his staff a large party of Russian officers visited St. Cyr and Buc on Saturday last. Lieut. de Marzac carried the General on his Maurice Farman biplane from St. Cyr to Buc, while Lieut. Manger-Devarenne took another officer over. Quite a long time was spent by the mission at Buc, both the Maurice Farman and the R.E.P. works being inspected and also the various types of machines. The large number of officers training at Buc were kept very busy giving flights to the Russian officers. They were also at Buc two days previously, after a visit to Villacoublay, where they were officially received by General Manoury, Col. Hirschauer, &c., and saw flights on Astra, Nieuport, Sommer, Morane, Deperdussin, Farman and Breguet machines.

Etampes to Verdun in Company.

ON the 2nd inst., Lieuts. Bellemois, Sylvestre and De la Morlaye, on their Blériot monoplanes, left Etampes and flew in company to Chalons, and after a rest they went on in the afternoon to Verdun.

From Bar-le-Duc to Mailly Camp.

RETURNING from the inauguration of the military aerodrome at Bar-le-Duc, Lieuts. Varein, Battini, Bordage (with one passenger) and Lucca (with two passengers), on their Maurice Farman biplanes, passed over Verdun, St. Mihiel, Toul and arrived at Mailly Camp on the 3rd inst. They made an overnight stop at Chalons Camp.

Cutting it Too Fine.

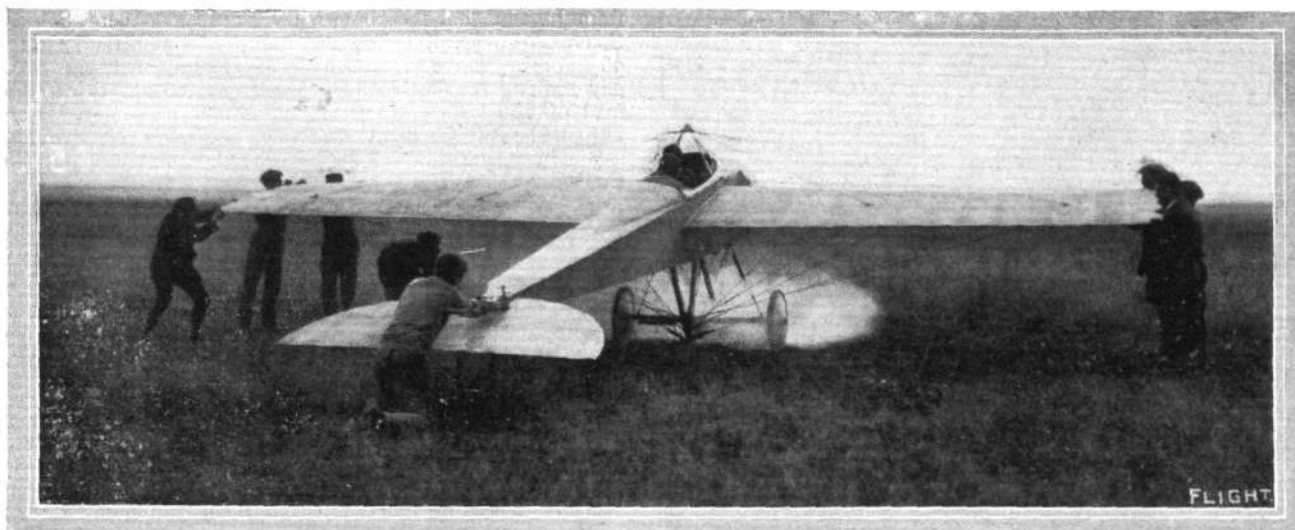
THE accident to Lieut. de Briey at Villacoublay is another instance of the danger of aeroplanes passing too close. The officer was starting on a cross-country flight, and was at a height of 150 metres when another machine passed under him. The backwash affected Lieut. de Briey's monoplane to such an extent that it dropped to the ground and was wrecked, the officer sustaining serious injuries.

Colours for French Army Aviators.

THE Stella, the French ladies' aero club, on the 6th inst., presented to Col. Hirschauer, permanent inspector of military aeronautics, colours intended for the First Regiment of Aéroliers. The tricolour has in the centre a laurel wreath and an anchor, with a pair of wings across, a medallion in the centre bearing the national monogram, R.F. Above is the legend "Aéronautique Militaire," while below is inscribed Fleurus, Extrême-Orient and Maroc, three military operations in which aviation has borne a part. The colours will be officially presented to the aviation corps at the review tomorrow, Sunday. They were handed over to Col. Hirschauer by Mme. Surcouf, president of the Stella club.

French Military Certificates.

SINCE June 25th the new regulations regarding the French military certificates have been in force. Candidates are now required to make a triangular flight of 200 kiloms. on two consecutive



Legagneux, on his Zens monoplane, just getting away at Compiègne for his passenger-carrying records when he covered 150 kiloms. in 1h. 13m. 4s.

days, with two obligatory stops; trip of not less than 150 kiloms. in a straight line in one week; flying for 45 minutes at a height of 800 metres. All these tests are to be made without a passenger, and only after consent has been obtained from a commanding officer.

The conditions for civil "superior" certificates are the same, except that the Ae.C.F. may provide the officials.

One Peugeot Prize Won.

Now that one of the Peugeot prizes has been won it will doubtless spur others on to try and win the other prize. At Viry Chatillon on the 4th inst., Gabriel Poulain called together the official observers, and by the aid of his cyclo-plane, a racing bicycle fitted with wings, he more than satisfied the conditions for the Decimetre prize of 1,000 francs: To fly over two strings one metre apart and ten centimetres above the ground. He succeeded in covering 3.6 metres plus the length of his bicycle on the first trial and 3.3 metres on the second run in the reverse direction.

French Naval Minister and Hydro-Aeroplanes.

WITH reference to the hydro-aeroplane competition which is being organised by the Automobile Club of France to take place at St. Malo, M. Delcassé, the French Naval Minister, has offered an *objet d'art* and a medal as prizes. The dates definitely chosen for the competition are August 25th to 27th.

A Grand Prix for Hydro-Aeroplanes.

AT the last meeting of the French Aero Club Committee the idea of next year's Grand Prix was talked over, and it was decided that it should be a contest for hydro-aeroplanes over a course from Paris to the sea.

Fatal Accident to Bedel.

RENE BEDEL, who came to the front by his splendid flight on a Morane monoplane from Villacoublay to Biarritz last April, met his

death at Chalons Camp on Tuesday morning in an accident somewhat similar to that which recently overtook M. Jules Vedrines. He had flown over from Versailles and was preparing to land, when some telegraph wires loomed up in front of him out of the mist. Apparently in the sudden manoeuvres to avoid them the machine was capsized and fell to the ground, the unfortunate aviator being killed in the wreckage.

Villacoublay to Mourmelon on a Sommer.

WITH a passenger, M. Gilbert, on his Sommer machine, Oliveres, on Monday, started from Villacoublay, and keeping mostly at a height of 800 metres flew over to Mourmelon, taking 1½ hours for the journey.

Michelin Target Prizes.

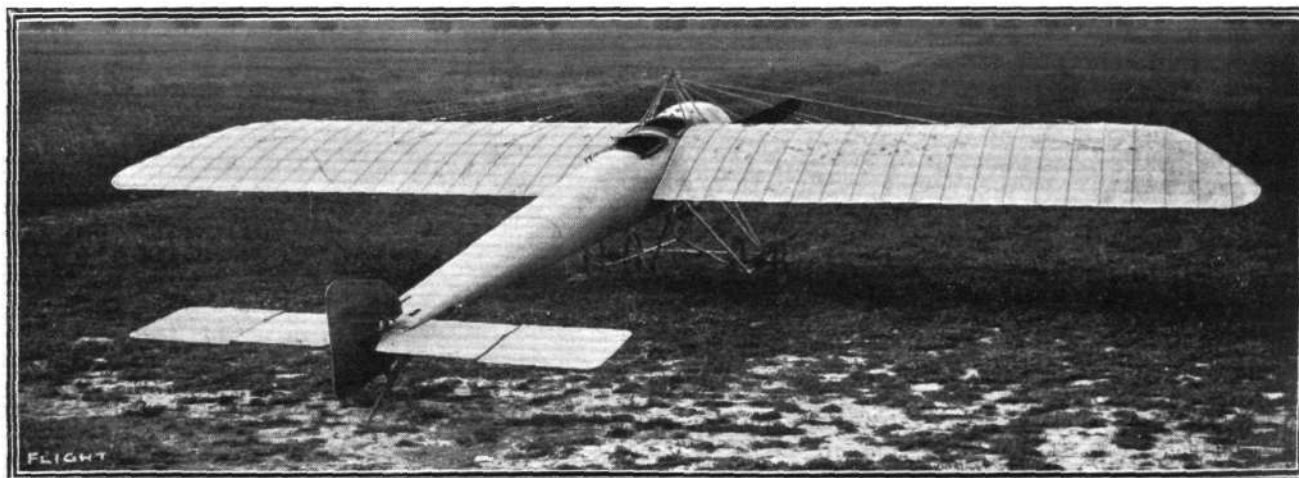
AT the tests made at Mourmelon, on Sunday, for the Michelin target prizes Lieut. Varien in his first test placed eight out of fifteen projectiles on the target, and in a subsequent test placed nine out of fifteen shots. Lieut. Bosquet also made an attempt, but could not do better than six out of fifteen.

A Curtiss Triad at Marseilles.

ON the Paulhan-Curtiss triad, Barra on the 4th inst. flew over from Juan-les-Pins to Marseilles in preparation for a projected flight across the sea to Lyons. He landed on the way at Hyères after an hour and a quarter's flight, and reached Marseilles an hour later, having taken two hours and a quarter for the journey of 225 kiloms.

A Fast Run Home.

AFTER the opening ceremony at the Bar-le-Duc Aerodrome, Lieut. Marlin started up on his Hanriot monoplane, and flew back to Rheims, covering the 100 kiloms. in 65 mins.



The new 100-h.p. Gnome-engined Morane-Saulnier two-seated (tandem) military monoplane.—It is constructed throughout of steel. The all-steel fuselage of this machine, it will be remembered, was one of the clous of the last Paris Aero Salon.



Lieut. Marlin, who recently flew on a Hanriot from Rheims to Bar-le-duc, covering 100 kiloms. in 45 mins.

Recruiting for the French Aeronautic Corps.

FOLLOWING on a recommendation by Colonel Hirschauer, the French Minister of War has issued an order that recruits of the class 1911, provided they have obtained the Ae.C.F. pilot's certificate, may join the aeronautic corps without examination. The idea is to obtain the young men, who, Colonel Hirschauer asserts, make the best pilots.

Fast Flying on a Farman.

AT Etampes on the 2nd inst. Olieslagers was testing his new 80-h.p. Farman biplane, and was timed to do 140 k.p.h. Chevillard was also testing a machine built for school work, in which the control levers, &c., are duplicated.

Flying Visit to Issy from Mourmelon.

ON the 1st inst. Barillon started on his Nieuport from Mourmelon at 6 p.m. and landed at Issy at half-past seven. The following morning he flew back to Mourmelon, and arrived in time to give the usual lessons to pupils.

Long Flights on the Deperdussin Monoplane.

ON the 3rd inst. Lieuts. de Briey and Gourlez left Villacoublay on their Deperdussin monoplanes, and after a flight of two hours both landed at Issy. Owing to the clouds and mist both aviators had to fly very high, generally between 1,500 and 2,000 metres.

From Bar-le-Duc to Rheims on a Blériot.

ON the 3rd inst. Lieut. Gaubert and Machin, on a Blériot monoplane, flew from Bar-le-Duc to Rheims in 1 hour 50 mins., during which their average altitude was 1,200 metres. On the 5th inst. Lieut. Gaubert made a round trip from Rheims to Chalons and Mourmelon and back in 1 hour 5 mins.

Cross-Country on the Clement-Bayard Monoplane.

ON Saturday last Gastinger, on the all-metal Clement-Bayard monoplane, flew from Chartres to Orleans and then back again, doing the return trip in 37 mins.

Another Superior Deperdussin Pilot.

ON Monday Lieut. Brocard completed his test for a superior certificate on his Deperdussin machine. On Thursday evening he went to Vouziers and returned on Friday morning to Rheims, then went on to Mailly Camp and from there to St. Cyr. He returned to Rheims on Monday morning.

A Russian Princess Secures Her Certificate.

AT Johannisthal, on Saturday, the Russian Princess Eugenie Schakowskaja completed her tests for her *brevet* on a Wright biplane after having taken a series of lessons from Abramovitch.

Flight Round Berlin.

UNDER the patronage of Prince Henry of Prussia a flight round Berlin is being organised to take place on August 31st and September 1st next, and prizes amounting £3,000, as well as a trophy by the Minister of Public Works are offered. Starting

from Johannisthal the route will be *via* Lindenberg, Schulzendorf, Spandau, Potsdam, Teltow and back to Johannisthal, a distance of 96 kiloms. Three circuits have to be completed, one on the first day and two on the second. Each machine has to carry a useful load of 180 kilogs., including pilot and passenger. Aeroplanes must be built in Germany but foreign engines will be permitted. A suggestive regulation is that no photographic apparatus may be carried on the competing machines.

The Meeting at Leipzig.

EVERY day of the Leipzig flying week some really good work was seen, and on some days at least eight different machines were in the air. The outstanding performances were the height record flight of Hirth, 4,100 metres, on Saturday, and the passenger carrying records of Schirrmeister and Oelerich to which reference is made elsewhere. The Military competition was won by Krieger.

Austrian Army and Aviation.

AT a meeting held in Vienna recently it was decided to form a committee with Prince Max Egon von Fursternberg as president to consider the question of providing the Austrian Army with an adequate fleet of aeroplanes. The Austrian Emperor through the Minister of the Interior has expressed his approval of the scheme which he will do everything to encourage. A national subscription has been started.

A Roumanian Fatality.

LIEUT. CARANDA, an officer in the Roumanian Army, who recently learnt to fly in France, met his death on the 4th inst. at Bucharest by falling with his machine from a height of 300 ft.

Hydro-Aeroplaning in Greece.

ON a Farman hydro-aeroplane, Lieut. Camberos, who learnt to fly in France some time ago, on Monday flew from Phaleron to Hydra Island, a distance of about 50 miles, which was covered in 43 mins.

Encouraging Flight in South Africa.

RECENTLY Mr. J. Weston, who has been doing a considerable amount of flying in various parts of South Africa, applied to the Bloemfontein municipal authorities to help in starting an aviation school. Although the idea of granting a subsidy could not be entertained the question of giving a suitable site for the school is to be considered.

Flying off an Hotel Roof.

ANOTHER "first to do it" is announced from America. At Portland, Ore., on June 11th, Silas Christofferson rose on his Curtiss biplane from a platform which had been erected on the flat roof of the Maultnomah Hotel. The platform allowed a run of 170 ft., but the machine was well up before reaching the end and continued to Vancouver, where it landed after a twelve minutes' flight.

Changes in Wright Co.

IN consequence of the death of his brother, Mr. Orville Wright has been elected to fill his place as president of the Wright Co., and so far a new vice-president has not been chosen. The other directors of the company are Andrew Freeman, August Belmont, Cornelius Vanderbilt, Russell A. Alger, Theodore P. Schonts, Morton F. Plant, Edward J. Berwind, P. W. Williamson, Henry S. Hooker, and A. F. Barnes.



AERONAUTICAL SOCIETY OF GREAT BRITAIN

Official Notices.

Wilbur Wright Memorial Fund.—A subscription list has been opened to found a memorial to the late Wilbur Wright, as an appreciation of his great work and also as some small recognition of the support he gave to the Society. The memorial is to take the form of a Premium Lecture on Aeronautics to be delivered annually, and to be called the "Wilbur Wright Lecture." It is hoped that members will give their generous support to enable this lecture to be given in perpetuity and to be of such value that it will become the greatest honour of the year.

The fund will be administered by trustees.

The following is a list of donations received:—Amount previously acknowledged, £330 1s.; A. Mortimer Singer, Esq., £50; Hon. Maurice Egerton, £20; Messrs. George Barker and Brettell, £5 5s.; J. T. C. Moore-Brabazon, Esq., £3 3s.; Col. J. E. Capper, £2 2s.; Capt. H. F. Wood, £2 2s. One guinea each: Dugald Clerk, Esq., Horace Darwin, Esq., G. G. M. Hardingham, Esq., Capt. E. M. Maitland, Sir Hiram Maxim, Col. H. E. Rawson, Col. H. E. Tyler, £1 each: W. H. Dines, Esq., Hon. H. S. Littleton, 10s. 6d. each: H. D. Cutler, Esq., Capt. Nevill Eliot, A. P. Thurston, Esq., J. Green, Esq., 5s. Total, £418 11s.

11, Adam Street, Adelphi.

T. O'B. HUBBARD, Secretary.

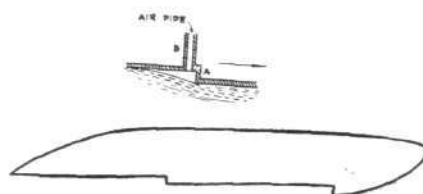


Conducted by V. E. JOHNSON, M.A.

Hydro-Aeroplanes.

Stepped Floats.

If it be granted that frictional resistance depends on the body immersed in water being *wetted* by the fluid, it at once follows that if any means can be devised by which the body is no longer wetted, or even if we can reduce the extent or degree of the wetting, the frictional resistance will be reduced. One method is to coat the body with a smooth metallic surface such as copper, aluminium, &c., another is to coat it, so to speak, with a layer of air, the frictional resistance then being "air-air," instead of "water-water." Some years ago such an experiment was actually tried by Sir Frederick Bramwell, who described it as peculiar and "soda-water," but the important point is that the resistance was "materially" lessened. Very much the same result is obtained in hydroplanes, the manner being as follows: Suppose the drawing, Fig. 1, to be a section of a small portion of the bottom of the boat travelling in the direction of the arrow. The water rushing swiftly past the "step" A, causes the air to flow down the air-pipe B into the space behind A, and is carried (partially dissolved) over and between the surface of "the plane" and the water. In other words the boat can be correctly said to be more or less "floating on air," i.e., we have a more or less perfect "air-air" frictional resistance instead of a "water-water" one. Such boats have been eminently successful, one of the latest patterns is said to have attained a speed of 48.8 knots. In FLIGHT, June 8th issue, page 511, is given a sectional drawing of the Wright float, which is of such a character. We give this week a sectional drawing of a stepped float, designed by Mr. T. W. K. Clarke. It



will be noted that this has no air tubes. We must confess that it is a little difficult to see how the air tubes act successfully in actual practice. When an aerofoil surface (flat or curved) is driven at an angle of incidence through the air, there is a decided

negative pressure on the top side, and one would naturally expect that the water should rather be sucked up than air sucked down. There is, however, the weight of the water to take into consideration as compared with the weight of air.

Initially when the float is at rest on the water—the level of the water in the tube will be the same as that of the main body of water. As the body commences to move through the water—if we suppose the water in the tube to be dragged down by the general movement of the water underneath (in reality, the forward movement of the hydroplane through the water), air must naturally follow. As the speed increases, the float commences to rise, until air also rushes in from the side, and the question which then arises is, will this air tend to rush up the tube or will it combine with it in its flow to the rear—supposing such a flow is already in existence?



Some of the members of the Scottish Ae.S. Model Aero Club, Mr. C. F. Arthur's model hydro-aeroplane in the centre.

The advantage in using the tube method evidently is that it comes into operation from the commencement—whereas the float must have emerged to a certain extent in the second case—unless the tread of the step be such that its highest point is not submerged even when the float is at rest on the water. A method which no doubt could be adopted is to discharge the exhaust from the engine through a series of holes in the tread of the steps. Such holes would obviously have to be fitted with valves opening outwards.

One of the chief advantages, however, in the use of stepped floats in the case of hydro-aeroplanes would appear to be that the float does not require setting at any angle of incidence, the setting line being the line joining the bottom corners of the treads, the float thus emerges from the water as a whole more or less, and there is not that travel of the centre of water pressure to the rear as in the case of the ordinary float set at an angle. When using floats having an apteroid aspect this is evidently a great advantage.

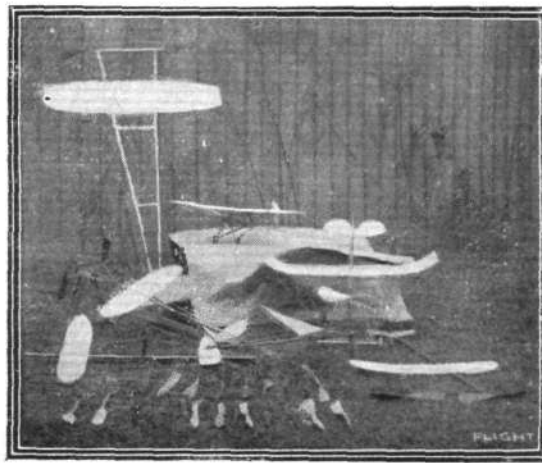
Lessening the Resistance.

It is well known that fishes have the surfaces of their bodies covered with oil glands which keep them well greased. It would be interesting to try some such device in the case of floats. The old whaling captains used to say that whalers were faster than sister ships, which fact they attributed to the sides always being oily. If the wetted surface of a body be increased, it by no means follows that the general resistance will be increased. The very reverse may be the case if the body be given a more streamline form.

A very interesting experiment is described by Professor Worthington (*Splash of a Drop*, S.P.C.K.), he says, take a small, very smooth marble about $\frac{1}{2}$ in. in diameter, dry it thoroughly and slightly warm it. If this marble be dropped from a height of 2 to 3 ft. into a bucket of water, the water will spread over the sphere so rapidly that it is sheathed with the liquid even before it has passed below the general level of the surface. The splash is insignificantly small and of very short duration. If the marble be wet, i.e., the same marble when picked out of the bucket, the splash is considerable.

Celluloid Floats.

The thinnest sheet celluloid procurable from Messrs. Guithermann and Co. has a thickness of $\frac{1}{1000}$ of an inch; the sheets are 20 ins. by 50 ins.; a less quantity than one sheet is not supplied; the price per sheet is 3s., less 25 per cent. trade discount. We have constructed a celluloid float similar to the wood and silk one illustrated in last week's issue, but the weight comes out considerably more—nearly twice as much. This is chiefly owing to the flexibility of celluloid, which necessitates the inner framework having considerable thickness, and in consequence weight. As an experiment a cylinder-shaped float was constructed of the same material, with flat ends; diameter of cylinder $1\frac{1}{2}$ ins., length of cylinder $8\frac{1}{2}$ ins., weight of cylinder 6 grammes, flotation capacity $7\frac{1}{2}$ ozs. approx. Another cylindrical float with hemispherical ends, formed of the two halves of two small celluloid balls, $1\frac{1}{2}$ in. in diameter, total length $8\frac{1}{2}$ ins., provided with fixing hooks, weighed 11 grammes. Celluloid like metallic foils is easily indented.



An interesting set of models and propellers constructed by L. G. Rylay (Nant-y-Glyn, Stoke Park, Coventry).

The Steering Competition for Self-Rising Models.

This competition, held last Saturday at Greenford, was a very successful and closely contested event, a few marks only separating the first three competitors. Had Mr. Jannaway been able to accomplish the circular flight to the left with anything like the same success that he performed tests A and C, he would have been well in the running if not the actual winner. A very gusty and tricky wind was blowing both before and during the greater part of the competition, and several competitors, including the winner, Mr. G. P. Bragg-Smith, smashed their machines badly in initial trial flights; also test A was rendered all the more difficult owing to the models being compelled to rise with the wind. Duration did not count, nevertheless one of Mr. Houlberg's flights lasted 60 seconds.

The time is not official being merely taken *en passant*, as it were. Nothing especially novel was employed in the nature of steering devices, and fins and rudders were conspicuous only by their absence. The method employed by the winner was by means of the elevator, which must be mounted on some kind of universal joint, so as to allow of another degree of freedom than mere "tipping" or "dipping." This method was, we believe, first employed by Mr. T. W. K. Clarke in his "flyers," and was specially advocated by us in *Model Aeroplaning*, pp. 107-108, more than two years ago.

After the contest some exhibition altitude flights were given by Mr. Bragg-Smith and Mr. Weston, the latter flying a monoplane fitted with a special form of wing-tips. Both were successful in making some very fine flights. One cannot help feeling a certain amount of disappointment that there were not more competitors. It was just the sort of contest that an amateur who was prepared to undertake a certain amount of careful experimental work would have stood a very good chance of winning, and a 10-oz. silver cup is not

picked up every day. The competition undoubtedly deserved to be better patronized, and amateurs should not be so diffident in coming forward; when they do they are often surprised, in a pleasant way, at the results. The particulars of the contest are given elsewhere.

Replies in Brief.

E. WARD FOX.—We shall be pleased to make some use of the sketches later on.

E. STANBROOK; S. CAMM.—Owing to you not having written on the back of the photos sent we are quite unable to tell which is which.

A. RICHARDSON.—Do not fit an electric motor, it is quite useless. We will publish one in due course.

KENNETH A. ROLLINS.—Your letter is by no means clear, you should have sent rough sketches to scale with position of centre of gravity marked. Apparently your main plane is too far forward, try it further back. Your rubber should stand more turns than you mention, if good. Lubricate it well and purchase only the best, anything else is useless; you should have commenced model aeroplaning with the elevator in front type.

Query.

Mr. G. Hart Horwood (31, Carden Road, Peckham Rye, S.E.), would be glad to know if there is a model club in that neighbourhood. If not he would be pleased to meet with anyone in that vicinity with a view to forming a club in that district.

Model Club for Leytonstone.

Mr. F. E. GRATTON (64, Leyspring Road) would be pleased to hear from anyone interested in models with a view to forming a club in that district.



THE KITE AND MODEL AEROPLANE ASSOCIATION. OFFICIAL NOTICES.

British Model Records.

Hand-launched	Distance ...	G. Rowlands ...	429 yards.
	Duration ...	A. F. Houlberg ...	89 secs.
Off ground	Distance ...	H. R. Weston ...	26 yards.
	Duration ...	G. Rowlands ...	30 secs.

International Kite Meeting.—A grand international scientific and military kite flying meeting will be held at Spa from August 18th to 25th inclusive, under the patronage of His Majesty The King of the Belgians and the Aero Club of Belgium, under regulations of the International Aeronautique Federation. £600 in prizes. The competition will be held on the La Sauveniere racecourse, commencing Sunday, 18th, at 9 a.m. Programme: August 18th, competition for registered pull (900 frs. in prizes); 19th, weight carrying (1,800 frs.); 20th, panoramic photography (3,400 frs.); 21st, man-lifting (4,300 frs.); 22nd, topographical photography (1,800 frs.); 23rd, height (900 frs.); 24th, guiding and steering life line, &c. (900 frs.); 25th, best and representative clubs (1,000 frs.). Dynamometers, barometers, &c., to be provided by competitors. Any member or reader wishing to go out to represent England should write to the hon. secretary stating what competitions he would fly in. The complete programme will be ready in about a week, and will be forwarded to any member on application. Only those wishing to compete please apply. All entries to be sent through the association.

Competitions.—July 6th. The steering competition for models rising off the ground under their own power, at Greenford, 12 competitors. Tests: straight flight for 50 yards, circular flights to right and left; at least one complete circle to be made. Results: 1st, G. P. Bragg-Smith (138 marks); 2nd, A. F. Houlberg (135); 3rd, F. Soan (132); 4th, F. W. Jannaway (108); 5th, H. Weston (103). Messrs. Houlberg and Soan tied for second place, and in the fly-off test Houlberg beat Soan by three marks. Mr. Bragg-Smith therefore secured the handsome silver trophy presented by the association, Mr. Houlberg taking the silver medal of the association, and Mr. Soan the bronze. Judges: Mr. H. F. Lloyd, A.F.A.S., Mr. V. E. Johnson, M.A., and W. H. Akehurst.

The amateur competition for models rising off the ground also took place for first and third prizes withheld last week. Results: 1st, L. Connolly (96 marks); 2nd, F. W. Jannaway (95); 3rd, F. Soan (85); 4th, J. Dollittle (60). Mr. Connolly taking the first prize of £2 worth of aeroplane requisites presented by Messrs. T. W. K. Clarke and Co., and Mr. Jannaway the pair of propellers presented by The Weston Hurlin Co.

Kite Flying Competition.—Wimbledon Common, Saturday, July 20th, 3 o'clock. Open kite flying competition for prizes given by Messrs. Brooke and Westorp. Prizes: 1st, BrooKite, value 30s.; 2nd, BrooKite, value 25s.; 3rd, BrooKite, value 15s. Entries close July 13th. Free to members; non-members' entrance fee, 1s. 6d. Rules: 1. Competitors may submit any kite, either home-made or manufactured. 2. A bugle will announce start and finish of competition. 3. Competitors must be at the judges' flag at 2.30 sharp. Any competitor not present at that time will be disqualified. 4. The competitors must have exactly 300 yards of line on winders, and the line or wire may be of any size or kind. 5. The judges will take the angle of kites when in flight. 6. Competitors must

note that competition will last until a bugle sounds, and if the kite falls to the ground before that time it will be disqualified. 7. Marks will be awarded for angle, stability, strength of construction, and collapsibility. Maximum of marks is 400; 100 for each test. 8. Any competitor fouling another is liable to be disqualified.

Model Competitions.—At London Aerodrome, Hendon, July 25th, at 2.30 p.m. Entries close July 20th.

Event I.—The "Wakefield" competition for models rising from the ground under their own power. (Open to the world.) Holder, Mr. E. W. Twining, 1911. Free to members. Non-members' entrance fee, 2s. Prizes: 1st, gold challenge cup and gold medal, presented by Alderman Sir Charles Wakefield, Kt., D.L., J.P.; 2nd, silver medal; 3rd, bronze medal. Tests: A. Shortest run before rising. B. Duration of flight (timed from time of starting till it lands or disappears from judges' view). C. Stability in flight. Maximum marks 200; 50 for test A, 100 for test B, 50 for test C. Rules: 1. Competitors must be at the judges' flag at 2.15. Any competitor not present at that time will be disqualified. 2. Models must not weigh less than 8 ounces. 3. Competitors will be allowed to make reasonable repairs at the discretion of the judges. 4. Each competitor is entitled to three trials, if time permits.

Event II.—The "Grahame-White" power-driven competition for duration. For models rising off ground under their own power, which must be either steam, petrol, or carbonic acid gas engines. Prizes: 1st, silver trophy, presented by Mr. Claude Grahame-White; 2nd, silver medal; 3rd, bronze medal, presented by the Kite and Model Aeroplane Association. Rules: 1. Competitors must be at the judges' flag at 3.15, or will be disqualified. 2. All competitors must note that models must be tuned up to remain in the ground, and that neither the Kite and Model Aeroplane Association nor the London Aerodrome Co., Ltd., will be responsible for any damage done by or to models. 3. Models to be timed from time of starting till time of landing, or till they disappear from judges' view. 4. Competitors must state fully the weight of machine with engine, and also h.p. of engine. 5. The committee reserve the right to refuse any entry.

Event III.—Scouts' model competition. Longest flight competition. (Open to all scouts in the British Empire.) Prizes: 1st, silver cup, presented by Mr. Claude Grahame-White; 2nd, a bound volume of *The Scout*, presented by the editor of *The Scout*; 3rd, a bound volume of *The Scout*, presented by the editor of *The Scout*. Rules: 1. Competitors may submit models of any kind. 2. Models must not weigh less than 2 ounces. 3. Competitors must be at the judges' flag at 3.0 sharp. Those not present at that time will be disqualified. 4. Reasonable repairs will be allowed at the discretion of the judges. 5. Models must be hand-launched. 6. Each competitor is entitled to three trials, if time permits. 7. The length of flight will be measured in a straight line, from starting point to alighting point, and not along the line of flight. 8. Competitors may submit models of any kind, provided that they are their own make throughout. Entries close July 20th.

W. H. AKEHURST, Hon. Sec.

27, Victory Road, Wimbledon.



PROGRESS OF FLIGHT ABOUT THE COUNTRY.

Model Clubs: Name of District only given. In brackets: Secretary's address.

Notes regarding Clubs must reach the Editor of FLIGHT, 44, St. Martin's Lane, London, W.C., by first post Tuesday at latest.

Aero-Models Assoc. (N. Branch) (15, HIGHGATE AVENUE, N.).

RESULT duration competition at Finchley on Saturday:—1st, B. Brown, 50 secs.; 2nd, G. Longland, G. O. Partridge, M. B. Ross, 40 secs. Monthly competitions are to be held for prize goods to the value of 3s. 6d. offered by the club. Silver medal to be awarded to first member to achieve a flight of 40 secs. with a Tractor. G. Pedsley, Esq., of Sidmouth, has kindly presented a cheque for £3 3s. to provide a challenge and other cups for competition. Suggestions in

writing from members for competitions are invited. Visit to Birmingham on August Bank Holiday being arranged.

Aldershot Aero Club (37, ALEXANDRA ROAD).

FLYING by following on Wednesday and Saturday last week:—Connett, Fenney (200 yards and over with reconstructed r.o.g., doing 55 secs. 4 miles with hand model), Gaffney, Hobbs. Several doing 300 yards and over. Flying every Sunday and Wednesday on the Long Valley.



A few members of the Aldershot Model Aero Club, of which Mr. Cody is the President, during an afternoon's flying.

Birmingham Aero Club (8, FREDERICK ROAD, EDGECASTON).

CONTEST July 13th, at Unionist Demonstration, Hampstead. August Bank Holiday, additional model gliding competition. Entrance fee for whole competitions, non-members 1s., members free. Some good flying Saturday by Messrs. G. Wyld, V. L. Thompson, E. Trykle, L. West, P. Rogers, A. F. McManus, G. Haddon Wood, and Mr. G. Baker.

Blackheath Aero Club (48, HAFTON ROAD, CATFORD, S.E.).

TO-DAY (Saturday) at Seven Fields, Grove Park, K. and M.A.A. trials. Mr. Woollard meets visitors travelling from Charing Cross, and Mr. Dollittle those from Cannon Street. The former party will leave Charing Cross at 1.40, and meet the Cannon Street contingent on the 2 o'clock train to Hither Green. In both cases the meeting place will be under the clock in the station. A representative of club will meet competitors travelling by tram and road at the Fountain at Catford Tram Terminus, leaving there for the ground at 2.30 sharp. Trials start 3 o'clock sharp.

Brighton and District ("KINGSLEIGH," KINGSWAY, HOVE).

MR. BATE (rise-off-the-ground) got off in 8 ft., and flew for 38 secs.; with another model he did 355 yards. Hydro-aeroplane competition, August Bank Holiday.

Bristol Model Flying (3, ROYAL YORK CRESCENT, CLIFTON).

JULY 6TH, good rising-from-ground flights, E. Martin. Duration, hand-launched, 45 secs., R. T. Howse. Meeting to-day (13th) at Sea Walls, 3 p.m. July 17th, 7 p.m. Will those who wish to exhibit models at the Bristol and West Exhibition (Sept. 16th to Nov. 9th) please communicate at once.

Cardiff Aero Club (114, MISKIN STREET, CATHAYS).

F. W. CROUCH elected secretary in place of E. W. Evans (retired). Club workshop given up temporarily, owing to outdoor work, and meetings with models Mondays at Cathays Park, 7 p.m., when secretary requests members to better the somewhat modest records, viz.:—F. W. Crouch, duration, 35 secs.,

May, 1912; W. Weeks, altitude, 50 ft., June, 1912; F. W. Crouch, distance, 250 yards, May, 1912. F. Crouch flew large kite with string of flags over Municipal Buildings during King's visit.

Coventry Aero Building Soc. (22, KINGSTON RD., EARLSDON).

EXHIBITION of flying at Band of Hope Demonstration on July 6th, at Football Field, London Road, by Messrs. Cobb, Haselwood, Austin, Ryley, Collins, Rice, and King. Distance record up to date for Manville Cup, 353 yards, by R. A. Rice.

Dover Model AeC. ("OAKVILLE," GODWYNE ROAD, DOVER).

MEETING competition committee will be held 13th at 7.30 p.m. Special competition suggestions to secretary.

Ealing and District (CUCKOO, HANWELL, W.).

SATURDAY, the K. and M.A.A. held their two competitions at Greenford as mentioned elsewhere in this issue, in which Mr. Houlberg scored second place. Mr. R. S. Hall was elected secretary at Wednesday's general meeting. Note new address.

East Ham and District (54, SAVAGE GARDENS, EAST HAM).

HYDRO work last week-end by secretary. Bedford broke club record, 47 secs. (Furning type). Flying as usual this week-end.

Hackney and District (THE HOLLIES, JENNER ROAD, N.).

OFFICIAL durations last Saturday:—Gittas, 55 secs., with 4 ft. triple-screw; Marmin, 45 (0-1-1-Pa). Club open for inter-club contests. Next week pair of 10 in. carved propellers will be offered for efficiency (duration formulae); small entrance fee for non-members.

Paddington and Districts (77, SWINDERLY ROAD, WEMBLEY).

RESULT of sealed handicap:—1st, Woolley (receives 24 secs.), 60 points; 2nd, C. Chalfont (14 secs.), 58 points; F. Lane (12 secs.), 53½ points; T. Carter (25 secs.), 51; W. Evans (22 secs.), 49½; C. Levy (20 secs.), 47½; S. Wood (30 secs.), 46; C. Dutton (11 secs.), 44; M. Levy (22 secs.), 39½; A. Cannell (6 secs.), 37. The latter competitor afterwards put up some excellent flights of 78, 73, 64½, 59, and 58 secs. Mr. Woolley gained his second-class certificate with flight 700 ft., having previously obtained necessary duration. Flying to-day (Saturday) in fields top of Eagle Road, Wembley.

Reigate, Redhill and District (4, LONDON ROAD, REIGATE).

MR. J. L. SUTTON flying r.o.g. mono., rising-off-grass in 8 ft., average flights 120 yards, excellent landings; also 324 yards 31 secs. duration with 5 oz. hand-launched mono. Mr. H. Osborne, 217 yards with new 5½ oz. mono. On Sunday Messrs. Morris and R. and M. Wilson gliding models off Buckland Hill, longest glide about 180 yards. Competition for Mann and Grimmer prize on July 13th.

Scottish Ae.S. Model Aero Club (6, McLELLAN STREET, GOVAN).

ON Wednesday last week Mr. J. S. Gordon was out at Maxwell Pond with hydro-aeroplane. Using two Voisin floats in front and one "Flight" type in rear, the model rose easily from the surface every time. This is the first model in the club to rise from water using floats other than rubber tubing. On Thursday Messrs. J. Mills and J. C. Balden at Winton Drive, testing rising-from-ground models. Mr. J. C. Balden got off easily, doing 264 ft. and 26 secs. (club records for this class). Saturday duration competition was held at Paisley racecourse. Official results: Mr. W. G. Langlands 50½ secs., Mr. C. F. Arthur 46 secs., Mr. J. S. Gordon 40½ secs., Mr. J. C. Balden 32 secs. The club's new workshop is practically fixed up now, and should soon be in working order. The club's new year commences in September. Subscriptions: Seniors, 7s. 6d.; Juniors under 17, 4s. per annum. Particulars from secretary, Mr. Wm. Foster, Rochelle, Limeside Avenue, Rutherglen.

South Norwood (240, HOLMESDALE ROAD).

MEMBERS flying, Messrs. Streeter, W. Hooker, Stemp. Streeter got 200 yards and a glide of 12 secs., with single-stick model. Competition next month for rise-off models. All models to be fitted with protectors.

CORRESPONDENCE.

* * The name and address of the writer (not necessarily for publication) MUST in all cases accompany letters intended for insertion, or containing queries.

Automatic v. Inherent Stability.

[1594] With regard to letter 1592, it seems to me that there is no question at all as to "the desirability or otherwise of an arrangement for providing an aeroplane with absolute automatic stability," and why one should have long "burned in the minds of all technicians and designers" I cannot understand. It is true I am not a technician, but Mr. Clarke is, and he takes the view that, stability being a desirable quality undisputably, automatic stability is still more desirable, because it saves trouble. The only question seems to be with regard to the device to confer it. "Absolute automatic stability"—or even ordinary workaday stability, for that matter, which would not lightly try issues with a hurricane—would undoubtedly be desirable, and it only remains for a device to be invented.

Meanwhile, we have in the Dunne and Weiss types, machines which are as inherently stable as any aeroplane ever will be (I speak, of course, without reference to possible improvements in construction), and when the aforesaid device is introduced and put on to a machine of this type we shall have a combination producing something near absolute stability.

But Mr. Clarke does not, for some reason not apparent, altogether approve of inherent stability. He says it would have "disadvantages in stormy weather," and that under those conditions the less inherent stability there is the easier is the control. He also says he does not oppose "inherent" stability machines, but if he really believed in the "disadvantages," I should think he would be quite willing to oppose them. Personally I cannot see that there is any logical difference between automatic stability and any other kind. It is a question of quantity. In stormy weather I should think the more stability the better, whether inherent or dependent on the pilot's skill. And how does Mr. Clarke think his view is evidenced by modern construction? Does he leave out of consideration the

German and Austrian machines? It is true they all look very unscientific, but they are apparently feeling their way towards the Dunne and Weiss principles.

The British War Office has, apparently, missed a splendid opportunity to cover itself with glory by developing the Dunne aeroplane. I say this as

Wandsworth Common.

A READER.

[1595] With reference to article in June 29th issue, "Automatic versus Inherent Stability," by Mr. E. L. Ovington, I would wish to endorse the opinions there offered.

As most people know, the only methods as yet tried to maintain lateral stability are by the gyroscope and the pendulum. Both these methods are absolutely perfect in theory, "but" they are only mechanical contrivances, and no mechanical device is immune to failure. When it fails the pilot is helpless with an awful helplessness. If he had been in control he would most likely have been able to prevent an accident. What more perfect piece of mechanism is there than the human brain? If that can fail, how much easier is it for a most complicated piece of steel, that works more by good luck than good guidance, to also fail. As we cannot put brains into a machine there is still need for man to do figure eights and the rest. However, if some means could be found of helping the pilot to maintain balance, though not such as would in any way impede him at a time of crisis, it would be better. I leave that question to some inventive genius to solve, and all praise to him if he unravels the mystery, as I hope he will.

I personally, though I have had no practical experience in flying, would prefer a machine controlled by myself and only by myself.

I will digress so far as to wish your excellent journal a most successful future as a reward for its good work.

Farnborough.

L. GILLMAN.

[1596] *Re* Mr. Earle Ovington's article I do not see why automatic stability should not be safe on aeroplanes, provided that machines were fitted with a supplementary control lever fitted with some sort of a clutch so that if the automatic stability went wrong the pilot would still have the machine under control, but by manual obtained. But I think the best of all would be inherent stability, combined with manual obtained; for extra stray gust; that may hit the machine the manual obtained control combined would be very useful.

Beckenham.

HERBERT LEACH.

The Curvature of the Cambered Plane.

[1597] I enclose herewith a diagram showing some of the more interesting characteristics of the reaction of the cambered plane. EFG represents the section of the under surface of the cambered plane, EeC , the section of the surface at which the fluid is first put in motion—the stream front, and, CgG , the section of the surface of discharge. The space between the parallel horizontal lines, DE and HC , represents the section of the relative stream of approach, $defg$, is a stream-line of the relative stream. BC and AC are equal cycloids. The straight line, $EE' = 2CF$, rolls on the cycloid, HCJ , and its middle point, M , slides along the cycloid, ACJ ; its upper extremity traces the curve, EFG , and other fixed points on it trace the remaining stream-lines. The elements of given stream-lines are, therefore, at constant distances from the cycloids, ACJ : (e.g., $mc = Cf = m'g$). These constants have the same proportion to the velocity from rest (as at e), as $AB = 4a$ (which in a sense is one of them) has to the velocity (c) of flight. The thick lines, mc and $m'g$, show the directions of the motions at e and g respectively. The velocity of a

marked particle, originally at rest, as at d , becomes a maximum at e , a minimum at f , and again a maximum at g : hence, as force is necessary to change the momentum, the pressure increases from e to f , and decreases from f to g .

The velocities relative to the cambered plane—or along the stream-lines—are supposed constant, but different in different stream-lines. The velocity in the stream beginning at the vertex C is equal to c ; the velocity in EFG is equal to $c \cos \phi$, where $\phi = -\alpha$ is the inclination of the tangent at the beginning of the

stream (at e), a may be considered arbitrary, that is to say, if a less slope of chord is required, a lower stream-line is chosen for the section of the cambered plane, and the scale of AB is correspondingly enlarged. Hence, constructionally, a different angle of incidence requires a specifically different camber.

A feature of especial interest, connected with the dipping front, is the mean velocity of flow across the vertical normal. Let y^1 typify any ordinate as $O'e$ of the stream front, and R the corresponding vertical radius of the stream-line, as Cf . Then with the specific curvatures as shown, if $U = cK$, be the mean velocity across R , $U = cy^1/R$, which means that horizontal sections of the stream are represented by straight lines. Hence, if normal planes be drawn to the surfaces of all the curved streams which are caused by the motion of the cambered plane, they will, without exception, cut its under surface, and at right angles. This shows that no possible return in the shape of potential energy (at EF) for the energy expended (at FG) is lost. Conversely, it is clear that a violation of the mean velocity condition will result in some loss.

The kinematical conditions are very concise.

A particle in static equilibrium, as at d , is free to move in any direction on impact, and, therefore, by a known theorem, moves off when struck so as to take the maximum kinetic energy which the impulse can give it. (1)

Hence, the particles start from rest under prescribed velocity conditions, and their subsequent motions are (clearly) subject to merely directive constraint; therefore, by a known theorem, the kinetic energy of the motion is a minimum, subject to (1). Which is sufficient to determine the motion. (2)

Leeds.

ARTHUR RAMSDEN.

IMPORTS AND EXPORTS, 1911-12.

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910):—

	Imports.		Exports.		Re-Exportation.	
	1911.	1912.	1911.	1912.	1911.	1912.
	£	£	£	£	£	£
January ...	1,196	619	1,088	2,412	Nil	Nil
February ...	3,129	3,110	1,786	36	Nil	Nil
March ...	11,327	640	1,027	950	357	600
April ...	2,110	4,820	807	72	4,343	50
May ...	1,707	7,494	2,471	1,350	1,972	154
June ...	3,225	7,928	2,432	419	1,682	300
6 months	22,694	24,611	9,611	5,239	8,354	1,104

⊗ ⊗ ⊗ ⊗

NEW COMPANIES REGISTERED.

Aerial Transit, Ltd., Bristol House, Holborn Viaduct, E.C.—Capital £30,000, in £1 shares. Acquiring sole rights in Great Britain, Colonies, and Dependencies of J. Wulffing's invention for a rigid airship, and A. de Baza's invention for a method of manœuvring airships.

Pinner Aero Ground and Motor Co., Ltd., Cannon Croft, Bridle Road, Pinner, Middlesex.—Capital £1,000, in £1 shares.

⊗ ⊗ ⊗ ⊗

PUBLICATIONS RECEIVED.

The Dynamics of Mechanical Flight. Sir G. Greenhill. London: Constable and Co., Ltd., 10, Orange Street, Leicester Square, W.C.

The Bosch News. Bosch Magneto Co., 223-225, West 46th Street, New York.

⊗ ⊗ ⊗ ⊗

Aeronautical Patents Published.

Applied for in 1911.

Published July 11th, 1912.

6,754. N. A. A. J. LELARGE. Aeroplane with automatically-maintained stability.

22,750. A. E., H. L., AND H. O. SHORT. Propelling flying machines.

Applied for in 1912.

Published July 11th, 1912.

5,976. O. GOSSMANN. Flying machines.

9,297. S. MC. D. BROWN. Air craft.

PRINCIPAL CONTENTS.

	PAGE
Editorial Comment ...	624
The Freedom of the Air ...	625
The Military Competitions—The Machines ...	629
Ladies' Day at Hendon ...	629
The Sweep Factor of a Cambered Plane. By F. Handley Page ...	631
Royal Aero Club. Official Notices ...	632
F.A.I. Conference at Vienna, June 20th and 21st, 1912 ...	632
From the British Flying Grounds ...	635
Air Eddies. By "Oiseau Bleu" ...	638
British Notes of the Week ...	639
Foreign Aviation News ...	640
Models. Conducted by V. E. Johnson, M.A. ...	643
Progress of Flight about the Country ...	644
Correspondence ...	645

FLIGHT.

44, ST. MARTIN'S LANE, LONDON, W.C.

Telegraphic address: Truditur, London. Telephone: 1828 Gerrard.

SUBSCRIPTION RATES.

FLIGHT will be forwarded, post free to any part of the world at the following rates:—

UNITED KINGDOM.			ABROAD.		
	s.	d.		s.	d.
3 Months, Post Free ...	1	8	3 Months, Post Free ...	2	9
6 " " " ...	3	3	6 " " " ...	5	6
12 " " " ...	6	6	12 " " " ...	11	0

Cheques and Post Office Orders should be made payable to the Proprietors of FLIGHT, 44, St. Martin's Lane, W.C., and crossed London County and Westminster Bank, otherwise no responsibility will be accepted.

Should any difficulty be experienced in procuring FLIGHT from local news-vendors, intending readers can obtain each issue direct from the Publishing Office, by forwarding remittance as above.